SPINOZA'S THEORY OF EMOTION IN RELATION TO VYGOTSKY'S PSYCHOLOGY AND DAMASIO'S NEUROSCIENCE

Miles Secker

A Doctor of Education thesis submitted to the School of Education in the Faculty of Social Sciences, University of East Anglia

SEPTEMBER 2014

ABSTRACT

In this thesis I consider the function of emotion in concept development as conceived by Lev Vygotsky. I offer an argument for considering mental concepts as the material product of emotional activity and social relations mediated by speech. I argue for a conception of mental development as arising at the interface of emotional activity considered as the neurophysiological activity of the body and speech shared in a dialogue. I attempt to demonstrate how speech in a dialogue obtains the development of higher mental functions by simultaneously transforming primary or passive emotions into the secondary, social or active emotions that motivate the speech for the development of concepts. To achieve an explanation of this process I consider Spinoza's theory of emotion, conceived as consistent with Vygotsky's interest in that theory in its methodological relation to the Spinozist theory of neuroscientist Antonio Damasio. Following Vygotsky's 'testing' of Spinoza's theory against the Jamesian theory of emotion I 'test' Spinoza's theory in the light of Damasio's interpretation, for the purpose intended by Vygotsky.

In the course of this 'methodological test' I reveal the extent to which Vygotsky and Damasio agree in their interpretations of Spinoza. I show that the theory of Damasio, except in respect of Spinoza's notion of active emotion, represents the theory of emotion to which Vygotsky would have appealed for his own 'test' of Spinoza's theory of emotion as he explains in his monograph. I show especially that Vygotsky is relevant to Damasio in just that part where Damasio's theory does not meet Vygotsky's objections to the James-Lange theory. I explore the consequences for Damasio of his omissions from his theory of certain crucial parts of Spinoza's own theory significant for Vygotsky and I show that following these omitted parts points to

a theory of motivation which can only be completed by introducing Vygotsky's theory of concept development. From the shared Spinozist perspectives of Damasio and Vygotsky I develop an explanation of speech motivation. In this, I explain the interaction between concept development and speech when the use of speech is motivated by emotional activity as a function of concept development. I argue that the development of social relations and concepts of them can only be traced in speech motivated by secondary emotions.

For my students

Theory Z

1. For the transcenders, peak experiences become the most important things in their lives…

2. They (the transcenders) speak easily, normally, naturally, the language of Being (B-language), the language…of the Spinozistic level.

Abraham Maslow

Farther Reaches of Human Nature

1971

ACKNOWLEDGEMENTS

I am grateful to the University of East Anglia School of Education for enabling me to explore my interest in the philosophy of Spinoza and its connection to the educational psychology of Vygotsky.

I would have been unable to complete this thesis without the patience of my supervisors, Dr Esther Priyadharshini and Professor John Elliott. I thank them for the time they shared with me in discussion and for ensuring the development of my efforts.

I wish to thank Caroline Cummins for her continuing care and expertise in preparing the document from my written material and for the preparation of the final thesis document.

REFERENCES TO SPINOZA

References to the works of Spinoza are made throughout this thesis. The translations and abbreviations used by the translators are as follows:

Ethics, Spinoza, 1677: translated by Samuel Shirley, 1991; Hackett edition, 1992.

Ethics	Eth.
Parts I, II, etc.	I, II, etc.
Proposition 1, 2, etc.	Prop. 1,2, etc.
Corollary 1, 2, etc.	Cor. 1, 2, etc.
Scholium 1, 2, etc.	Sch. 1, 2, etc.
Definition 1, 2, etc.	Def. 1, 2, etc.
Lemma 1, 2, etc.	Lemma 1, 2, etc.

Correction of the Understanding, Spinoza, 1677: translated by Andrew Boyle, 1910; Dent edition, 1986.

Correction of the Understanding	Corr. Und.
Paragraph	Para. 1, 2, etc.
Chapter I, II, etc.	Ch. I, II, etc.

Theological-Political Treatise, Spinoza, 1670: translated by R. H. M. Elwes, 1883; Dover edition, 1951.

Theological-Political Treatise	TPT
Chapter I, II, etc.	Ch. I, II, etc.
Page	p

CONTENTS

GLOSSARY

D = Damasio; S = Spinoza; V = Vygotsky

active emotion (S):

that transition of the emotional experience of pleasure and desire (feeling) and the forms of its shared social experience in social relations.

adequate idea (S):

an idea the 'intrinsic marks' (its internal logic) of which makes it sufficient to explain its object. The possible prototype for 'scientific concept'.

autobiographical self (D):

conscious experience, including emotional experience created from interactions between the social environment including the use of language with the existing core self (up to the neocortex including the prefrontal cortex).

common notions (S):

higher order adequate ideas common to activities of modes of nature of the same kind. The possible prototype for Vygotsky's 'word meaning'.

core self (D):

continuous background conscious emotional experience created from interactions between the environment and the existing protoself experience (from the brainstem up to the limbic system).

dialogue:

social relation in which the explanatory speech of the individual motivates the explanatory speech of the other by transforming emotional experience.

emotional experience (“perezhivanie”) (V):

successive experiences which become the means of development.

everyday concept (V):

phrase used for generalisations from experience referred to by a general or class term (same as spontaneous concept).

explanatory concept:

concept which explains the deductive relations between spontaneous concepts and their relation to the objects or data (same as scientific concept).

inadequate idea (S):

an idea of experience, but made ‘vague’ (S) by excitable passive emotions.

passive emotion (S):

That emotional experience of pleasure and pain and its more complex social forms, rewards and punishments, and praise and blame, when one individual interacts with another individual.

perfection (S):

reality; the agreement of a developing idea with its object. The possible prototype of Vygotsky's 'final' form. The prolepsis of a concept.

protoself (D):

the emotional experience or homeostasis of the body's interaction with the external environment internally refracted through the most primitive parts of the CNS (up to the brain stem).

scientific concept (V):

a concept or theory obtained from the speech used to organise the systematic deductive relation between spontaneous concepts to explain objects and events.

transition (S):

the passage of emotional experience from less activity (passive) to greater activity (active) caused by forming adequate ideas.

CHAPTER 1: INTRODUCTION

Introductory survey

In this chapter I make a case for the centrality of Vygotsky's plan to incorporate an explanation of emotional experience into his broader psychology. I explain why Vygotsky's methodological approach to psychology is particularly suited to an explanation and understanding of emotion and its function in his psycholinguistic theory of concept development. I claim that Vygotsky's understanding of psychology is a corrective to the results of quantitative measures in psychology.

The field of enquiry of this research has very broad parameters. These include its scope, relevance and application. Research in the field of emotional and social development is considerable and takes a number of forms, mainly in the social sciences but also in biology and philosophy. It is a principal concern of education. The mutually interactive relationship between emotional and social development and concept development and hence between the social, economic, political, ethical and psychological environment of the student and the student's own emotional and social development makes the educational scope of this field of enquiry of both general and particular relevance. Different forms of social scientific, biological and philosophical enquiry may emphasise the broad social dimensions of this relationship while others emphasise the personal and individual. What is interesting is the intersection of these dimensions and in particular the interaction between them, that is, between the social and the individual. The focus on this interaction has determined the form of this enquiry. It determines the relevant psychology and methodology, and hence also the method of analysis and the form taken by the conclusions. The researcher interested in these problems is not entirely free to design the research the way he

wants. The purpose of the research sets limits to its design. In this case I have followed the manner of enquiry of Lev Vygotsky in my primary source, his monograph on the Theory of Emotion (1933).

Research into social development with its roots in quantitative method fields data which may allow the researcher to draw conclusions of a general kind and which may have general applications. It is unlikely, however, that quantitative methods can give an exhaustive account of the phenomenon researched. Such an account can only give an explanation in quantitative terms which have only general applications. That is to say, an explanation given which, because it is quantitative can only give evidence for what can be quantified, determines the overall form and result of the research. For example, the researcher's commitment concerning psychology may, if he is a behaviourist, limit his research to data from observed behaviour. Although research can approach the phenomenon from several different angles and a general theory explaining the data can be created, an exhaustive account of the phenomenon cannot be obtained from quantitative data alone. In the relations between the social environment and the individual what is salient is the interaction itself. It is the qualitative changes which constitute the interaction which is the phenomenon that requires an explanation. This phenomenon is the crucible in which the interaction between the social and the individual arises. Vygotsky came to the view that this crucible was 'emotional experience'.

The phenomenon under investigation in this thesis is the interaction between emotion, concept development and the social environment and what form an explanation of the interaction of these would take.

In psychology, very broadly speaking, quantitative research depends upon a theory of mental phenomena which is either on the one hand phenomenological and introspective or on the other behavioural and observed. Psychoanalysis can be regarded as phenomenological in that research depends upon the gathering of personal data describing or expressing a 'subjective', 'inner' or phenomenological mental state. The strategy of behaviourism and physiological psychology on the other hand, in claiming to be 'objective' and 'scientific', depends on treating the 'mental' as a black box and the gathering of data of observed behaviour so that it may be quantified. Both of these approaches illustrate how quantitative approaches to understanding and explaining mental phenomena have the effect of determining how one is to understand mental phenomena themselves. To avoid this problem Lev Vygotsky worked out a theory of psychological explanation which was neither 'introspective', as in the case of psychoanalysis, nor methodologically reductive, as in the case of behaviourism and physiological psychology. By demonstrating, for example, how social speech, the child's imitating of adult speech, is 'interiorized', Vygotsky succeeded in demonstrating the social nature of mental phenomena and the social and cultural origins of mental phenomena. Unlike physiologically or behaviourally oriented psychology, which treats 'mind' as equivalent with observable behaviour and has nothing to say about 'concepts', imagination, the range of emotional experience, or language or regards these as some kind of epiphenomena or supervenient phenomena, Vygotsky was able to do justice to the insights of phenomenology and psychoanalysis without reducing the psychological to the hidden domain of the subjective, the spiritual, the soul. At the same time as doing justice to the 'inner life' of the individual he was able to demystify the psychological, to 'explicate' it, and to show it as natural phenomena accessible to scientific enquiry

with the rest of nature. Hence it is to the psychology of Vygotsky one must turn if the relations between emotional experience and social development are to be understood. Throughout the thesis I explain emotional experience in terms of Vygotsky's psychology and to do this I refer principally to his unfinished monograph on this subject in Chapter 2.

I have argued that the 'data' depend upon notions of science and scientific method. Necessarily, Vygotsky was innovative in scientific method in psychology exactly as he was innovative in explaining the psychological. Hence in addition to turning to Vygotsky's monograph on emotion for an understanding of the interaction I am interested in explaining I shall offer an explanation of his 'unit of analysis' beginning in Chapter 4. I will develop both Vygotsky's theory of emotion and his unit of analysis in this thesis.

Vygotsky's understanding of scientific method is saturated with observations concerning methodology. His understanding of the psychological is of a piece with these observations. For example, when Vygotsky writes about 'tools' or the 'tool-use' of language he at once exhibits methodology in psychology as itself psychological. Hence a good part of the substance of Vygotsky's psychological writings is concerning methodology or the theory or philosophy of method. Vygotsky's solution to the problems of psychoanalysis and phenomenology on the one hand and physiological psychology and behaviourism on the other, a bifurcation of psychological science he accounts for in terms of 'descriptive' versus 'explanatory' psychology, is found in his various methodological enquiries and also in his monograph on the emotions. Vygotsky's treatment of the study of emotion is

therefore at once methodological and psychological. Surveying the development of psychology itself Vygotsky finds that explanatory psychology and descriptive psychology each falls on one side or the other of the philosophical problem of dualism. In his search for a solution to this philosophical problem Vygotsky finds a solution to the problem of psychology in the philosophy of Spinoza. Throughout his monograph on the emotions Vygotsky examines the rival ontological and epistemological claims of dualism and monism. Monism, as argued by Spinoza, is ontologically consistent with any attempt to give a naturalistic explanation of psychological phenomena. To put it another way psychological explanation presupposes monism. Dualism in philosophy lies at the foundation of the problems of psychology both in its methodology and in its understanding of the mind, body, emotions, imagination, knowledge, belief and hence also, and central to the purpose of my thesis, learning, social interaction and an understanding of social, ethical, legal and political norms. Spinoza did not hesitate to draw from philosophical monism the most radical conclusions and neither did Vygotsky. Hence in Vygotsky's writings on the emotions is found drawn together enquiries concerning methodological monism, a solution to the problems of psychology and a theory of emotion informed by the philosophy and psychology of Spinoza. This apparently disparate material will furnish the unit of analysis in its completed form in Chapter 9. In this sense the unit of analysis is itself a scientific concept, rich in potential interactions with other concepts as understood by Vygotsky.

Because his monograph was unfinished Vygotsky was unable to offer his own conclusion to his enquiries. In any case his enquiries discovered difficulties for which solutions could not be found in the contemporary psychology of the 1930s. Nonetheless various commentators have suggested the lines of enquiry Vygotsky

might have followed and I shall review these conclusions with the principal aim of constructing a version of his Spinozist theory of emotions to serve as the theoretical basis for a suggested unit of analysis in Chapter 9. To achieve this I shall turn to a contemporary neuroscientist who shares Vygotsky's interest in Spinoza. I shall argue that a consideration of the theory of Antonio Damasio resolves the principal difficulties encountered by Vygotsky. In making this argument I shall show the relevance of Vygotsky to contemporary neuroscience and also the limits of Vygotsky's socio-cultural determinism.

I will be unable to go so far as to employ Vygotsky's psychology as a program of action. Interpretations of his psychology as action theory are true to the unity of methodology and psychology, of 'tool' and 'result' he sought. This is an exciting conception of scientific enquiry as praxis, as continuous resolution and explanation. My conception of Vygotsky's psychology is limited by the necessity first, to furnish a unit of analysis consistent with his theory of emotion and second, to 'test' the coherence of that unit of analysis with the theory (Chapter 6) in a way consistent with Vygotsky's thought that no more reliable 'criticism of Spinoza than a testing of his ideas' would yield (Vygotsky, 1999: 104-105). Separating out the theory from the test of the theory has positivist undertones but I do not think this can or should be avoided and clarity is obtained by separating out, in some explicit form, the development of theory from its applications. A theory, thus conceived, is a method of explanation, an explanation of some phenomenon, some datum of experience. If the datum is explained by the theory, the theory is corroborated and the theory is better corroborated the more data it can explain. In this case the method I employ in Chapter 6 follows Vygotsky's own explorations of the relation of methodology to psychology. The principal purpose of this study is to discover how the product

function of the unit of analysis makes explicit the interaction of emotion with concept, including social concept, development. I shall have achieved my objective if I can exhibit and explain the relation of emotion to concepts and social concepts by this means. I shall seek to explain and exhibit how emotions motivate the use of language in its social, shared use and how from this emotionally motivated sharing of language, social concepts develop. In short I shall argue that emotion is a function in the development of concepts and that concepts, including social concepts, are emotionally motivated linguistic constructs.

Because it does not engage with the qualitative, a quantitative, positivist psychology does not engage with the mental in any but its surface, concretised forms. When the educational development of young people is measured in these forms, only an incomplete and partial understanding of their development is possible and when the measurement of mental and social development is obtained from the results of educational tests and examinations not only is the professional and adult understanding of young people incomplete but where the educational experience of young people is organised principally to meet the demands of quantitative measures so that a large part of the educational experience of the young person is served by meeting these demands, the mental, emotional and social development of young people is itself utterly impoverished by these very means.

If I can demonstrate how social concepts can only be formed in social relations and in relations between the young person and others in schools of such a kind that fosters their development in the way explained, it will follow that obstacles to these relations will hinder the development of those concepts, and hence hinder mental

and emotional development. Conversely I will attempt to explain how the function of emotion in social relations simultaneously fosters the development of concepts and why there can be no concept development without emotional development.

Result

I have marshalled my thoughts in order to persuade my reader that emotion is central to mental development, that it serves a function in the development of concepts that Vygotsky wanted to explain, and that quantitative psychological explanations cannot fully comprehend the part emotional experience has in mental functioning.

CHAPTER 2: REVIEW OF LITERATURE

Introductory survey

The subject of this chapter is my principal primary source, Vygotsky's unfinished manuscript or monograph, Theory of Emotion. It was written between 1931 and 1933 as Vygotsky turned to the consideration of emotion in mental functioning. Some of its ideas reappear in two of his shorter works in 1932 and 1934 but its theme reappears in the final chapter of his last masterpiece, Thought and Language (1934). A small part of the monograph appeared for the first time in Voprosy filosofii in 1970, and in Soviet Studies in Philosophy in 1972 under the title "Spinoza's Theory of the Emotions in Light of Contemporary Psychoneurology", a sentence adapted from the text. The monograph appeared complete in English, in 1999 as the main part of Volume 6, Scientific Legacy, Collected Works of L S Vygotsky. The purpose of this chapter is to offer a review of this monograph and to offer an appraisal of its conclusions, principally to show how favourably Vygotsky regarded Spinoza's philosophy but also to understand why the monograph appeared to be unfinished.

In this chapter I begin research of the theoretical problem of the interaction of emotion with the development of social concepts through a review of the literature crucial to its understanding. I shall do this with the expectation of articulating a theory of emotion and a unit of analysis which interacts with the development of social concepts in such a way that the development of social concepts is explained by the theory of emotion and the unit of analysis. In Chapter 1 a case was made for seeking an understanding of emotion in the psychology of Vygotsky. The principal reason argued was that the psychology of Vygotsky furnished a method of

explanation of mental phenomena which is the crucible, or as he would call it, the 'cell' or 'unit' of the interaction. However, Vygotsky's monograph on his theory of emotion was unfinished at his death.

I shall begin this review with reviews of the claim that Vygotsky's monograph on the emotions is unfinished. I shall isolate what is thought by various commentators to be the principal argument of that monograph. This will be followed by a survey of what seems to me to be the principal component and subsidiary arguments of the monograph. There are arguments concerning (1) a problem of psychology at the time Vygotsky was writing; (2) problems of methodology and (3) the problem of the James-Lange theory of emotion. I shall outline the relevance of each argument to later parts of this thesis but I shall conclude this review with an initial description of the version of Vygotsky's theory of emotion derived from his monograph and further informed by consideration of remarks made by Vygotsky elsewhere in his writings.

Reviews of Vygotsky's monograph: it is said to be unfinished:

Vygotsky's monograph on the theory of the emotions has been reviewed by commentators seeking to establish the direction of his research and how this may have contributed to the further development of his psychology. They agree that the monograph is unfinished but give different reasons. Theory of Emotion (1933) was written a year before the publication of Thought and Language and although the latter work may have been compiled from sources pre-dating Theory of Emotion its conclusions give some indication of the direction of Vygotsky's thought. In the final chapter of Thought and Language Vygotsky reviews the reasons he "replaced analysis into elements by analysis into units" (Vygotsky, 1986: 211) and explains

how the unit captures the properties of thought under investigation. Rather than associating words to meanings where meanings are treated as mental entities and driven beyond analysis, meanings, that is, concepts, are discovered in word use, in speech. But it is only at the very end of that final chapter that Vygotsky comes to 'the last step in our analysis' and there adds: "Behind every thought there is an affective-volitional tendency, which holds the answer to the last 'why' in the analysis of thinking" (Vygotsky, 1986: 252). In his introduction to the MIT edition of this work Alex Kozulin argues, therefore, that Vygotsky "was aware of the possible one-sidedness of his research program, which was devoted almost exclusively to the development of intellectual functions" and that "it is not surprising, therefore, that one of the last works of Vygotsky, which remained unfinished, addressed the problem of emotions" (Vygotsky, 1986: xli). Though "it remained in the form of an unfinished manuscript" (Yaroshevsky, 1989: 299), yet "He only made certain preparations for the future" (1989: 299). Again, "this chapter was not completed by Vygotsky" (Robbins, 1999, p ix); "he had no time to deeply develop his ideas" (Rey, 2009, p 66); "Vygotsky's manuscript is incomplete" (Van Der Veer and Valsiner, 1991, p 357).

Why is it unfinished?

It is possible that the manuscript was simply left incomplete "just as many other projects of Vygotsky" (Yaroshevsky, 1989: 299). On the other hand "Vygotsky clearly believed that Spinoza did not have all of the answers to solving future psychological problems of emotions" (Robbins, 1999, p ix) and "he turned to the works of Spinoza only to find that the answers did not lie there" (Van der Veer and Valsiner, 1991: 359). Both Yaroshevsky and Van der Veer and Valsiner claim that Spinoza's psychology and philosophy lacks a developmental theory. Van der Veer

and Valsiner maintain that Vygotsky appeals to the monistic unity of psychological phenomena found in Spinoza and that his naturalistic determinism offers a context in which the relations between lower and higher emotions can be resolved into one unified naturalistic account. But, they insist, this unity permits no explanation in terms of development (Van der Veer and Valsiner, 1991: 359) and this concept is central to explanation in Vygotsky's psychology. Yaroshevsky goes further (Yaroshevsky, 1999: 265). Throughout his writings Vygotsky has sought to give causal explanations which do not reduce to what Yaroshevsky calls 'mechanodeterminism', the kind of determinism found in Descartes and in his treatment of the lower emotions. This is enough to dismiss the relevance of Descartes in accounting for the higher emotions as I explain below (2.1). At least in Darwin determinism has taken a new form, what Yaroshevsky calls 'biodeterminism'. Biological determinism underpins a good part of psychology but precisely because of this, physiological psychology is unable to account for higher emotions either, even if the account given of the primitive or 'lower' emotions is complete. What Spinoza furnishes Vygotsky is a monistic determinism in which a psychological account of the change from lower to higher emotions can be coherently explained and in a thoroughly naturalistic theory. Despite this, Yaroshevsky contends, it is the "historical-cultural context of his activity" (Yaroshevsky, 1999: 265) and not his 'biological nature' from which arises the emotions. Hence Yaroshevsky argues Vygotsky's psychology advances from 'biodeterminism' to 'sociodeterminism' and it is in the 'process of social life' that the emotions develop. Hence while Vygotsky in his earlier research "concentrated on cognitive processes (perception, memory, speech) as parts of a whole, then at this point, the problem of feelings, experiences and affects moved to the centre of analysis" (Yaroshevsky 1999: 265). But, according to Yaroshevsky, Vygotsky "never speaks of the limitations" of Spinoza, that Spinoza's theory "was constructed on the basis of naturalism and not

historicism". Hence, according to Yaroshevsky, Spinoza's determinism lacks the socio-cultural moorings or the historical determinist context in which the concept of development makes psychological sense. However, Yaroshevsky does not dismiss Vygotsky's interest in Spinoza at this point: "It may be that the concluding part of the work not only would have disclosed the greatness of Spinoza's contribution but would have provided a critical analysis of his teaching" (Yaroshevsky 1999: 264). Kozulin also suggests that Vygotsky would have drawn "parallels between Spinoza's synthetic approach and his own" (Kozulin, 1986: xlii). Where Van der Veer and Valsiner survey Yaroshevsky's three levels of determinism (Van der Veer and Valsiner, 1991: 358) they point out that failure in one level of explanation does not rule out explanation at another level, even if, as they maintain, Vygotsky's socio-cultural theory is not dissimilar to 'modern social constructionist' theories of emotion.

In conclusion it would seem that while the monograph is indeed thought by expert opinion to be unfinished it is partly because it is thought Vygotsky would not have been able to reconcile Spinoza's account of the emotions with his own socio-cultural theory of development. On the other hand, whether Vygotsky would have achieved this is actually left an open question by Kozulin and Yaroshevsky. In what follows I shall review Vygotsky's monograph and pay special attention to this particular difficulty. Understanding this difficulty is a preliminary to understanding the interaction between emotion and social development.

The principal arguments of Theory of Emotion:

According to Langford "The aim of the text as a whole is to criticise the James-Lange theory of emotions and put in its place Spinoza's theory of emotion rightly

understood" (Langford, 2005: 105). Although "Vygotsky's lengthy manuscript had a complex structure", Van der Veer and Valsiner (1991:350) agree that it begins with a discussion of the James-Lange theory of emotion, proceeds to a demonstration that the James-Lange theory is Cartesian and concludes with a demonstration of the advantages of Spinoza's own theory. I shall not depart from these considerations but I shall review the text principally attending to Vygotsky's remarks concerning Spinoza as they have a bearing on (1) a problem of psychology that interested Vygotsky; (2) methodology and (3) the James-Lange theory.

2.1 A problem of psychology

Indicated above (p 13) Kozulin and Yaroshevsky independently suggested that the problem of psychology Vygotsky was approaching towards the end of Thought and Language and which he explores in the Theory of Emotion led him again to Spinoza. The problem centred on the "debate between 'physiological (explanatory) psychology' and 'descriptive (understanding) psychology' and the study of feelings. From this struggle, too, flows Vygotsky's interest in Spinoza for he saw in Spinoza a thinker who anticipated the removal of this false antithesis" (Gal'perin, 1972: 364).

The target of Vygotsky's argument is the reasons given by contemporary psychologists, W Dilthey and H Munsterberg, for claiming that the differences between physiological psychology on the one hand and descriptive psychology on the other are irreconcilable. A review of this particular problem as it is understood by Vygotsky will help to make clear the nature of the theoretical problem concerning emotion and its unit of analysis which I attend to later.

Put directly the difference between explanatory psychology and descriptive psychology lies in the difference between conceptions of the mental and the methods of accounting for it which have their roots in the theory of emotion of Descartes. Vygotsky offers a thorough examination of Descartes' theory in order to exhibit later the significance of Spinoza to his argument. But it is not necessary to review the success of this argument. It is sufficient to show that Descartes' argument for the cogito, for introspection, led him to dualism, and that if a foundation for the natural sciences is to be laid, the relations between objects of experience must be explained in terms of concepts which cannot themselves be such objects. Hence the world divides into two domains, the physical and the mental. For Descartes some emotions, the basic, sensual, lower, can be explained in natural scientific terms as arising from the actions of the body. Higher emotions of love, devotion, imagination, must arise from the sublime contents of the mind, cannot be explained in sensory terms and hence must be fundamentally different from basic, primary emotions of fear, joy, and sadness. With this argument Descartes bequeathed to science the philosophical entrenchment of dualism and this appears in the distinction as solid today as in Vygotsky's day, between explanatory and descriptive psychology.

By explanatory psychology is meant physiological psychology, naturalistic, causal psychology. Modern variants would be cognitive science and behaviourism. In this case the psychologist, if he is a behaviourist, treats mental phenomena as a variable intervening between independent and dependent variables. If he is a behaviourist his data consists in observations of 'bits' of behaviour and the correlations between them. This permits a causal explanation of the causes and effects of behaviour and

a theoretical explanation of behaviour in terms of ‘conditioned reflex’ and the effects of ‘intermittent conditioning’, ‘inhibition’, ‘extinction’ and so forth. If he is a cognitive psychologist he straightforwardly collects data as reports of introspective states of consciousness. The subject becomes a ‘simple observer’ of the ‘contents’ of his own thoughts. From the collection of this data the ‘totality of the contents of consciousness’ can be used to explain behaviour in causal terms. That is, more complex behaviour can be explained in terms of more basic reports or behaviour already explained. Dilthey and Munsterberg claimed that physiological or explanatory psychology could not explain more complex reports except in terms of a reduction to more simple ones. With respect to emotions they claimed that reports of higher emotions were either explained in terms of a reduction to basic emotions or were incapable of explanation in physiological terms. Critics of explanatory psychology argued for the rival, descriptive, ‘understanding’, phenomenological, teleological psychology concerning itself with ‘intentional’ states, meaning and purpose. They claimed explanatory psychology was either crudely reductionist or that it simply failed to explain mental experience. Their claim was that mental experience could not be decomposed into verbal data and analysed. Mental experience, especially emotional experience, they claimed, could not be reproduced voluntarily, hence introspective reports of mental states are completely unreliable as sources of scientific data.

Descriptive psychology pursues an ‘investigation of spiritual activity as a completely autonomous part of reality, which lies outside nature’, and which calls for evidence of our powers of understanding. Higher mental states and higher emotions especially can only be understood as intentional, ‘willed’ or purposive. Particular mental states can only be understood as part of the inner life of the person having them. They

form elements of a coherent mental life and the particular experiences of the life of that person. It is possible to give an account of mental life only when one understands the intentions of the actor, that is those interests, objects and activities that engage the attention and life experience of the actor in a purposive way. It is impossible to understand the actor's experience of his mental life without understanding the meaning to him of these objects and activities. And it is only in my understanding that the mental life of another is disclosed to me. If I understand why the other person laughs it is because I understand too, in an instant, that the joke is funny. If I have to have explained to me why the joke is funny then I did not understand it. So too with love, the other understands that I love them. If I tried to explain love in terms solely of my own physical sensations of pleasure or pain I would show that I did not understand love. No satisfactory account can be given of these experiences by an explanation in terms solely of the physiology of the body or neurological activity of the brain. To attempt to give such an explanation would show that I did not understand mental life and that I did not have a theory sufficient to comprehending any but sensual love, for example. The most therefore that can be expected from psychology is a phenomenological description of inner mental states.

Some investigators have interpreted Spinoza in just this way. In his annotations of Spinoza's correspondence A. Wolf thinks Spinoza's account of his own method "suggests the phenomenological method of Husserl" (Wolf, 1966; 432) for in one of his letters for example, Spinoza says "method … consists, namely, only in the knowledge of the pure understanding" and that "to understand this, at least as far as the method requires, there is no need to know the nature of the mind through its first cause" (Letter XXXVII; Wolf, 1966; 228).

‘Idealistic interpreters’ can give a phenomenological interpretation of these kinds of words of Spinoza if first they reduce Spinozism to parallelism and then set aside Spinoza’s “analysis of bodily processes” (Vygotsky, 1999; 124). In this case ‘bodily processes’ would simply run parallel to or duplicate mental processes. In this case two Cartesian substances and the phenomenological, introspective reduction would therefore be sufficient to account for mental phenomena. Unlike ‘idealistic interpreters’ Vygotsky understands very well that for Spinoza mental processes cannot be understood without relation to the body nor by anyone “unless previously he is sufficiently acquainted with the nature of our body” (Eth. II. 13, Sch.). For Vygotsky the removal of a phenomenological interpretation of Spinoza removes also the claims of idealism and lays bare Spinoza’s ‘essentially materialistic’ ontology.

Hence it would appear an unbridgeable gulf divides explanatory from descriptive psychology. On the one hand explanatory psychology can give a causal explanation but cannot explain higher emotions without falling foul of reductionism and on the other hand descriptive psychology can account for higher emotions but cannot give a genuinely causal or scientific account of mental functions or those higher emotions. But, Vygotsky observes, though Munsterberg thinks psychology contains these lines of enquiry mixed in an arbitrary manner, and though explanatory and descriptive psychology must therefore have ‘something in common between them’, Munsterberg and contemporary psychology are completely unable to account for the relation between these lines of enquiry. Meanwhile, Vygotsky also observes the dialectically antagonistic proponents of both descriptive and explanatory psychology each appeals to the psychology of Spinoza for their own purposes, whilst at the same time actually departing from his solution (Vygotsky, 1999: 222) and it is at this juncture he says “we must extract something significant to our purposes from the fact of

coincidence of two opposite teachings in one tendency toward Spinozist thought" (Vygotsky, 1999: 220).

2.2 Problems of methodology

Vygotsky says 'tendency towards' Spinozist thought because he argues that the division of psychology into its explanatory and descriptive schools has arisen precisely because each has departed from Spinozist thought, and in the direction of one or other side of the theory of emotions of Descartes. However while "Spinoza resists all of contemporary descriptive psychology as its irreconcilable opponent" and "it was specifically Spinoza who fought for a natural, deterministic, materialist, causal explanation of human passions", nonetheless in accounting for the "higher in the emotional life of man", "Spinoza's teaching is actually on the side" of descriptive psychology (Vygotsky, 1999; 222). The relation of explanatory to descriptive psychology was, it seems, something of a paradox. On the one hand explanatory psychology gave a causal explanation of the lower emotions but was unable to give the same explanation for the occurrence of higher mental functions and the higher emotions, while on the other hand, descriptive, phenomenological psychology, able to give a description of higher mental functions and their higher emotions, was unable to account for them in causal terms, when for Vygotsky "true knowledge is possible only as causal knowledge" (Vygotsky, 1999; 181). For Vygotsky then the problem is a methodological one, one of a deterministic, causal explanation of the higher emotions. For Vygotsky, the solution is to be found in an interpretation of Spinoza which resolves these two sides of the paradox but "The problems of Spinoza await their solution, without which tomorrow's day in our psychology is impossible" (Vygotsky, 1999; 222), and it was these problems that Vygotsky sought to solve.

Philosophically, the solutions to these problems are to be found in Spinoza's monism for there, not only is found a unified naturalistic theory of the lower and higher emotions but also a theory of explanation which is causal. The 'problems of Spinoza' are that he does not write as a scientific psychologist and this is principally owing to the metaphysical cast of his work. But this problem and the more specific problems concerning the relation of causal explanation to phenomenological experience will find its solution in the "convergence of philosophy with psychology and a very deep transformation of the whole structure and content of contemporary philosophical and psychological investigation" (Vygotsky, 1999; 231). Vygotsky insists that his investigation is part of this endeavour. His interest in Spinoza is fundamental to an understanding of his whole project. I have already argued that Vygotsky did not demarcate the boundary between methodology and psychology in any explicit way. For him resolving the problems of methodology is of a piece with resolving the problems of psychology for, as Deleuze says of Spinoza's method and which could equally be said of Vygotsky's, "The aim is not to make something known to us, but to make us understand our power of knowing" (Deleuze, 1988; 83). Vygotsky's ambition was to create a vast unified psychological science encompassing within one causal deterministic theory an explanation of mental phenomena inclusive of the whole range of its physiological and social conditions. "Consciousness must not be separated from its physical conditions; they comprise one natural whole that must be studied as such" (Vygotsky, 1999; 228). Although Vygotsky does not anywhere explain the relation of language to emotion in his monograph, looking ahead to the relation of Theory of Emotion to Thought and Language, "Thought and speech turn out to be the key to the nature of consciousness" (Vygotsky, 1986; 256). That is to say consciousness or mental life

cannot be explained as if it lay outside nature, as if it existed, as Spinoza says concerning the emotions in a line often quoted by Vygotsky, “as a kingdom within a kingdom” (Eth. III: Pref.). Once causal explanation is understood in Spinoza, an ‘adequate idea’ of the relation of the mind to the body follows (Eth. II: 13) and hence also “the knowledge of the union which the mind has with the whole of nature” (Corr. Und., II.13). Vygotsky’s interpretation of Spinoza is intended to transform Spinoza’s philosophical solution of the problem of dualism into his own scientific solution to the problem of psychology concerning the emotions. That is, where in Spinoza the understanding of the union of the mind and nature lies in his readers’ understanding of his theory of knowledge, in Vygotsky this is shown in the relation of thought to speech. Vygotsky approaches this in demonstrating the social and hence material origins of mind. When I explain this more fully below I shall explore the underdetermination of language as Vygotsky’s scientific rendering of Spinoza’s concept of ‘intuition’. Hence the ‘possible one-sidedness of his research program’ referred to by Kozulin (Vygotsky, 1986; xli) already contains the ‘key’ to the solution of the problem in two significant respects.

Firstly, Vygotsky already in his earlier work explains thought as an infolding or interiorisation of language and hence the main part of the solution is found in his ‘unit of analysis’. Secondly, in his interest in the distinction between ‘meaning’ and ‘sense’, towards the end of Thought and Language, Vygotsky remarks upon the transformation of meaning to ‘affective sense’ of words and sentences and the “affective-volitional tendency, which holds the last ‘why’ in the analysis of thinking” (Vygotsky, 1986; 245, 252).

Vygotsky does not think he will find in Spinoza a 'ready theory meeting the needs of contemporary scientific knowledge' but he does think "that in our hands there is no more reliable and powerful weapon for a criticism of Spinoza than a testing of his ideas in the light of contemporary scientific knowledge" (Vygotsky, 1999; 104-105). Hence, contrary to the conclusions of Van der Veer and Valsiner referred to above (page 11), Vygotsky did indeed expect to 'find the answers' to the problem of the psychology of the emotions in the philosophy of Spinoza.

At this stage it is reasonable to argue that since Vygotsky did not think that the emotions could be explained by either of the schools of psychology dominant in his day, an account of the emotions consistent with his own theory of emotion will not be found in either or even 'mixed' in both of them. It follows therefore that for this study neither a solely phenomenological nor a physiological psychological approach would be admissible. However, since Vygotsky must have been interested in finding a solution to the problem of the psychology of the emotions as part of his own program in psychology, I might expect to find in either of these approaches an account or partial account of the emotions consistent with the body of Vygotsky's psychology as a whole.

The interest Vygotsky had in the psychology of the emotions was not for him an historical problem anymore than the interest of this problem is a problem of the history of psychology. A Vygotskian account of the emotions therefore lands neither between the schools of explanatory and descriptive psychology of Vygotsky's day nor between any recent developments in psychology as a 'third way'.

Because for Vygotsky the solution to the problem of the psychology of the emotions lies in the dialectical relation between the two sides of the Cartesian divide as it unfolded in Vygotsky's day, turning to Spinoza for a monistic resolution of this divide is not simply a matter of forcing them into a methodologically monistic mould but of locating the unit or cell in just that fertile system of philosophy in which the resolution can be found. Locating this unit of analysis will not be found in quantitative methods. These entrench each perspective in lines of psychological enquiry, which, while each is undeniably creative and productive, nonetheless diverge in opposite directions. The cell, unit or crucible, calls for a qualitative method of enquiry. By this means it may be possible to determine whether such a cell can be located, and in the effort to locate it, observe the qualitative changes that make it such a cell.

These preliminary results of this section of this review suggests an approach that is constrained by Spinoza's ontology, namely monism, interpreted by Vygotsky as a form of materialism, that will appeal neither to phenomenological introspection nor physiological psychology, that will be qualitative and not quantitative or reductionist.

2.3 Problems of the James-Lange theory

In the previous two sections I have argued that Vygotsky did not think that a satisfactory or complete theory of emotion could be obtained either from psychology oriented towards physiology (explanatory psychology) or towards phenomenology (descriptive psychology). Each theory was incomplete in just that element contained in the other theory and so Vygotsky sought a theory of emotion which explained the whole range of mental phenomena in one comprehensive psychology. But none of his analysis shows Vygotsky dismissing either type of psychology but on the contrary

Vygotsky makes an effort to find how they may be rendered coherent one with the other. Since Vygotsky finds both trends in psychology make appeals to Spinoza he finds in Spinoza's philosophy first, a psychology which is inclusive of the phenomena explained by both physiological and phenomenological psychologies separately, and secondly, offers the methodological solution to the dualism that divided the physiological from the phenomenological. By separating the relevant parts of the monograph I think I have shown as clearly as possible that for Vygotsky, (1) the problem of psychology finds its terminus in Spinoza and (2) the problem of methodology also finds its solution in Spinoza.

In addition to these two concurrent arguments, throughout the monograph Vygotsky also analysed the claims of physiological and phenomenological psychologies as they met the challenge of the famous theory of emotion advanced independently by William James and Carl Lange. The James-Lange theory is prominent in his monograph because the "accepted view was to see in it a vital scientific realisation of Spinoza's ideas" (Vygotsky, 1999; 120). Because, as I have shown above, Vygotsky argued that Spinoza's theory was 'fruitful not only for the present but also for the future of our science' one might expect Vygotsky's analysis of the James-Lange theory to have been favourable. But this is not the case. Vygotsky sets about his analysis with the intention of refuting the James-Lange theory. I shall show in this part at what points he does this and show how his counter-arguments may serve as elements of his own theory of emotion.

Vygotsky gives an account of the James-Lange theory in neurological terms describing how 'afferent impulses are directed to the cortex', where 'centrifugal', that

is motor or efferent “excitations arise directed to the muscles and internal organs’. These bring on changes which afferent or receptor nerves ‘return again to the cortex and owing to this the object simply perceived is converted into an emotionally experienced object” (Vygotsky, 1999; 108). Vygotsky notes that this account runs contrary to common sense opinion which holds that feelings and sensations follow the emotional experience. In W James’s own well-known words, “My theory, on the contrary is that the bodily changes follow directly the perception of the existing fact, and that our feeling of the same changes as they occur is the emotion” (James, 1952; 743). Again, where Vygotsky concludes; “the aggregate of sensed associations and motor elements accounts for everything” (108), W James says, “no shade of emotion, however slight, should be without bodily reverberation …” (744).

Vygotsky observes that many psychologists of his day, including Lange, and, to a lesser extent James, thought this theory of the emotions amounted to an empirical confirmation of the theory of emotions of Spinoza. It is not difficult to see why. Without going into details at this stage, Spinoza says, “By affect I understand the affections of the body, by which the power of the body itself is increased, diminished, helped, or hindered, together with the ideas of these affections” (Eth. III. Def. 3). Having established that “The object of the idea constituting the human mind is a body …” (Eth. III Prop. 23) and where James says “I shall use the word object of emotion indifferently to mean one which is physically present or one which is merely thought of” (James, 1952; 738), Spinoza says, “The human mind is able to contemplate external things by which the human body was once affected as if they were present, although they are not present and do not exist” (Eth. II. Prop. 17. Cor).

Now, Vygotsky continues: "If it is true that the teaching of Spinoza on the passions is inseparably connected to the names of James and Lange" and his investigations show this is not the case then "the part of Ethics that deals with passions may perhaps be only of historical interest for the psychology of our time…" (Vygotsky, 1999; 120). Vygotsky notes Lange's claim: "Spinoza comes closest" to his, Lange's, own theory (Vygotsky, 1999; 71) and that James shows "historical blindness" when he claims there is no "kinship" between his theory and Spinoza's (Vygotsky, 1999; 74). In what follows I shall briefly review how, despite investing considerable interest in Spinoza, Vygotsky arrives at the conclusion "with which we did not want to agree" (Vygotsky, 1999; 120). In sum I shall review first, Vygotsky's criticisms of the James-Lange theory; second, his deployment of Cannon's thalamic theory of emotion to refute the James-Lange theory and third, Vygotsky's own dismissal of Cannon. None of this review is 'only of historical interest', as Vygotsky might say, because I shall argue later that Cannon's own conclusions were challenged by developments that led to a Neo-Jamesian solution which, it is claimed, is consistent with the theory of emotion of Spinoza. I shall argue that the Neo-Jamesian and Spinozist theory of emotions of Antonio Damasio meets Vygotsky's objections to the original James-Lange theory in a way which agrees with Vygotsky's understanding of the relation of his own psychosocial theory with biology and the relation of these to Vygotsky's methodology.

2.3.1 Vygotsky's objections to the James-Lange theory

2.3.1.1 It is theoretical

Vygotsky holds that the James-Lange theory was "based exclusively on speculative arguments and theoretical analysis" (Vygotsky 1999; 74) and that it "only inverts the

sequence of events in which emotions arise" (80). Of course James was challenging folk psychology and this is expressed in his well-known formulation already cited above (page 26). Moreover, James says himself, "It must be admitted that it is so far only a hypothesis, only possibly a true conception and that much is lacking in its definitive proof" (James, 1952; 744). The problem as far as Vygotsky is concerned is not that the hypothesis stands in need of 'proof' but that the theory explains "the nature of emotions with such obvious simplicity, with such conviction, with such an abundance of factual evidence" that it has created "an illusion of truth and irrefutability" (Vygotsky, 1999; 74). Vygotsky's point is not that James's hypothesis has escaped the test of fallibility, as against 'proof', as Karl Popper later would require of scientific theories, but that it is a theory not sufficiently coherent with Spinoza's theory of emotion as even to begin to furnish empirical evidence for a more comprehensive socio-cultural psychology of the emotions. For Vygotsky the explanatory power of the James-Lange theory rests on its 'obvious simplicity', and this, because it does not rise to the challenge of Spinoza and the power of his monistic theory to explain in causal terms emotional experience inclusive of social interaction. In the next chapter I shall explain how the Neo-Jamesian development in psychology addresses Vygotsky's objection.

2.3.1.2 It is dualist

Vygotsky's methodology requires that for a theory of emotion to be adequate for his purposes it must be able to resolve the divide between descriptive and explanatory psychologies; that is, it must be able to offer one form of explanation for those emotions called 'basic', 'lower' or 'primary', such as pleasure, pain, joy and sorrow, as well as those emotions called 'complex', 'higher' or 'secondary' such as love, devotion, grief and wonder. But when James makes his argument that emotions can

be resolved into ‘bodily feelings’, he continues, “if we fancy some strong emotion and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we find we have nothing left behind …… and that a cold and neutral state of intellectual perception is all that remains “(James, 1952; 745). Referring to this passage of James’s, Vygotsky does not think that ‘intellectual perception’, in James, is capable of being interpreted or explained in the same way as primary emotions. He notes James is content to call these secondary emotions ‘judgements’ and he illustrates his criticism by arguing that ‘emotional manifestations’ always “imply the individual’s consciousness of the special meaning and sense that he contributes to the given impression” (Vygotsky, 1999; 226). That is, where James says “we feel sorry because we cry, angry because we strike, afraid because we tremble” (James, 1952; 743), Vygotsky would say that since we are not always frightened because we run and may tremble because we are cold or cry because we laugh, James must introduce a second order ‘judgement’ of the circumstances of the event in order to explain how felt sensations of the body become this or that emotion. Vygotsky draws the conclusion that the James-Lange theory as a whole suffers the same defect of explanation as the Cartesian theory. Hence it is a form of dualism. The immediate theoretical solution to this problem is found in Spinoza’s monism, not merely for reasons of methodological coherence but because psychological phenomena are themselves coherent. Furthermore, I shall argue below, Neo-Jamesian theories incorporate developments in psychology consistent with the role James gives to ‘judgement’ but this will not be ‘judgement’ as conceived ‘intellectually’, theoretical, ideal, abstract, but as emotionally motivated.

2.3.1.3 It is not materialistic

In order for a theory of emotion to be coherent with Vygotsky's socio-cultural theory it must not only be monistic but it must be materialistic, though non-reductively so. A materialist theory is entailed methodologically if an explanation of the emotions is to be given in causal terms and this is as central to Vygotsky's conception of science as it is to Spinoza's theory of explanation, for where Vygotsky insists "true knowledge is possible only as causal knowledge" (Vygotsky, 1999; 181), Spinoza reasons "the order and connection of ideas is the same as the order and connection of things" because "the idea of anything caused depends upon a knowledge of the cause of which the thing caused is the effect" (Eth. II. 7 and Dem.). Even though he writes "Under the cover of parallelism" (Vygotsky, 1999; 124) Spinoza is, according to Vygotsky, a materialist. Whether Spinoza is or is not a materialist is an extremely difficult question to decide but for the purpose of understanding Vygotsky's refutation of the James-Lange theory, it is not necessary to enter upon it. A materialist interpretation of Spinoza is certainly possible. Moreover it is possible to obtain a materialism which is non-reductive, that is one in which it is unnecessary, in giving a causal explanation of any natural, including social, phenomenon, to reduce it to inert 'matter'. Turning to Spinoza, since "The first thing which forms the actual being of the human mind is nothing else than the idea of an individual thing actually existing" (Eth.II.11) and since "The human mind is adapted to the perception of many things, and its aptitude increases in proportion to the number of ways in which its body can be disposed" (Eth.II.14) it follows, "the more things the body has in common with other bodies, the more things will the mind be adapted to perceive" (Eth. II. 39. Cor.). Since "Our power of acting, therefore, in whatever way it may be conceived, can be determined, and consequently helped or restrained, by the power of another individual object possessing something in common with us…." (Eth. IV. 29. Dem.) it

follows that "… it is a good which is common to all men and can be equally possessed by all men in so far as they are of the same nature" (Eth. IV. 36. Dem.). That is to say since I understand rationally what I have in common with others who can assist this understanding, my emotions motivate actively inasmuch as they are social. In this way Spinoza explains social phenomena in the same naturalistic terms as biological phenomena and without the one 'reducing to' or 'emerging from' the other. It is these 'social', 'higher' or 'secondary' emotions which Vygotsky seeks to explain in causal terms and furthermore in a socio-cultural theory the explanatory power of which is inclusive of 'basic', 'lower' or 'primary' emotions. An effort could be conceived in which an attempt is made to give a causal explanation of primary emotions in terms solely of historical determinism. This is why Yaroshevsky argued that Vygotsky's psychology advances from 'biodeterminism' to 'sociodeterminism' (Yaroshevsky, 1999; 265) and that "This new determinist approach now has to be asserted in the theory of emotion and motivation" (Yaroshevsky, 1989; 312). On the other hand Vygotsky argues the James-Lange theory "finds for itself…. A place in the spiritualistic psychology of pure spirit" (Vygotsky, 1999; 233) because the James-Lange theory, "seeing their source in the activity of internal organs… tears emotions away from the general context of the mental development of man and places them in an isolated position" (156). That is, in being unable to account for the secondary emotions in the same non-reductive materialist terms in which I have shown Spinoza gives his account above, the James-Lange theory fails to be consistently materialist. Hence Vygotsky does not seek a 'socio-determinist' explanation at variance with biological determinism as Yaroshevsky suggests, because, first, it would be inconsistent with Spinoza's non-reductive materialism and second, Vygotsky insists "The historical development of human consciousness is connected primarily with the development of the cortex of the brain" (156). Hence the solution to the problem of the theory of emotions must proceed "from below, without which materialist scientific

thought would not be able to move and develop" and "from above" in order to "overcome the methodological roots of the fallacies of the organic theory of emotions", that is, the James-Lange theory (102).

2.3.1.4 It is intentionalist

If a causal and therefore a materialist account is to be given of mental phenomena then it will be impossible to explain mental phenomena in terms of intentions or 'will' since the appeal to mental phenomena as intentional, indeed, employing the concept of intentionality as the very criterion of 'mind', drives all mental phenomena beyond the reach of empirical explanation. This is not to say that a psychological explanation of 'intentionality' cannot be given. The thesis of intentionality holds that an account of consciousness or mind entails the notion that consciousness is purposive and has an object. Being conscious 'of' some object or event is alleged to show that consciousness has 'direction' and, as it were, 'goes over' to the object upon which it has seized in order to give the mental act meaning. For those arguing the thesis of intentionality and employing it in explaining mental phenomena, it is the meaning which constitutes the 'mental'. This would appear obvious in the case of W. James's account of secondary emotions as 'judgements' for James has been unable to account for 'judgement' in the same causal terms consistent with his biological explanation of primary emotions. Moreover, when an individual responds to some event or stimulus the "special meaning and sense that he contributes to the given external impression" is what determines for him whether the impression "is for him a subject of fear or anger" (Vygotsky, 1999; 228) for example, since there is nothing in the raw datum of the external impression which decides this judgement. Hence despite all his efforts to give a causal explanation of the emotions, James cannot account for the way an individual discriminates between emotions without invoking

the thesis of intentionality. Spinoza deals with 'intentions' or 'free will' as he calls it, in two ways. Firstly, in asserting "In the mind there is no absolute or free will, but the mind is determined to this or that volition by a cause…" he claims that 'faculties' of "understanding, desiring, loving etc.… are nothing but metaphysical or universal entities" (Eth.II.48) or generalisations of our ordinary experience which we form when we use words as a sign for something. Intention or 'will' is one of these 'faculties' falsely attributed to the mind by our use of language. If we are not careful about our use of words, words become used as the signs of things signified as they are in the imagination, and the imagination is that activity of the mind which is not organised by 'common notions' or 'reason' or 'true ideas', that is, by another use of language by which we form 'true ideas' or concepts. It is this way of thinking and speaking which leads us to imagine that we freely 'intend' this or that mental activity. Secondly, when Spinoza demonstrates that mental and physical events are the same (Eth. II. 7), he does not claim there is any interaction between the mental and the physical such that the "mind can determine the body to motion" or vice versa (Eth.III.2). On the contrary, "… if the object of the idea constituting the human mind be a body, nothing can happen in that body which is not perceived by the mind" (Eth.II.12), even if we are not conscious of it, "all this showing that the body itself can do many things from the laws of its own nature"… "so that it follows that when men say this or that action of the body springs from the mind which has command over the body, they do not know what they say…" (Eth.III.2.Sch). Departing, as radically for today as then, from accounts of thought and behaviour understood in mentalistic, ideal or even supernatural terms, Spinoza seeks to explain all human thought and behaviour entirely in terms of the interactions between the 'internal' biological and the 'external', social, environment of the body. So when Vygotsky asks "Do we inevitably have to resort to rejecting the laws of nature, to introducing a theological and spiritualistic principle of absolute freewill not subject to natural necessity?" (Vygotsky, 1999; 173)

in order to account for intentionality, he finds a ready solution to this question in Spinoza. Spinoza's causal determinism rules out any notion of 'freedom of the will' or intentionality as it is understood in ordinary language and as it appears in W. James. However, for Spinoza an account of free will or intention is achieved in the interdeducibility of 'common notions' or that coherent knowledge of nature obtained from the formation of 'adequate ideas'. Unlike 'inadequate ideas', which have only 'extrinsic marks' or empirical indicators or references such as when words are used to refer, and which are therefore the work of the imagination and ordinary language, 'adequate ideas' have 'intrinsic marks' and are so internally organised that they can 'concatenate' or 'connect' with other 'adequate ideas' and form an interdeducible system of ideas which exactly is the knowledge of nature. While inadequate ideas give rise to the idea of 'mental phenomena', including 'intentions', adequate ideas exactly are natural phenomena. That is, an adequate idea agrees with its object (Eth.II.43) conceived under the 'attribute of extension'. Hence Vygotsky is right when he claims Spinoza writes 'under the cover' of parallelism, for the mind, for Spinoza, exactly is the body, conceived under the 'attribute of thought'. These ideas correspond to Vygotsky's notion of 'scientific concept' for these also are concepts internally so rich that, in the 'ascent from the abstract to the concrete' they are the means of speaking about and explaining and hence thinking about and understanding, nature. The means of forming these concepts is in word use such that as the concept is 'interiorised' an increased economy of speech is obtained exactly in proportion as the concept entails an understanding of nature. Since these concepts are internally rich it is in speech that further interdeducibility of these concepts is made. As we advance from using words or class terms to refer, as in 'spontaneous concepts', to using words to explain, as in 'scientific concepts', we advance from talking about particulars to a scientific and comprehensive understanding of nature. But this understanding of nature is not 'theoretical' as

understood in a positivist notion of science for that marks a return to the 'mentalistic' side of Cartesian dualism with which Vygotsky thought James struggled. Spinoza accounts for such positivist knowledge, and its 'images', as arising from inductive generalisations from fragmentary, piecemeal interactions of the body with nature as a consequence of our limited knowledge of the body itself. It is in knowing what happens to the body in its interactions with nature that an explanation of the emotions can be given and because James cannot give such an explanation, Vygotsky argues that James "covertly introduces intentions" (Vygotsky, 1999; 228) in order to explain secondary emotions.

2.3.1.5 It is epiphenomenalist

Vygotsky insists that whichever way one interprets the relation of consciousness of emotion, that is, feeling, to the body, in the James-Lange theory, this relation is epiphenomenal, that is, feeling is explained as a by-product of the emotions. To put it another way, Vygotsky argues that the James-Lange theory, in claiming that peripheral changes in muscle and skin and in the internal organs, the viscera, relayed by afferent, receptor nerves to the central nervous system constitute the origin of the emotions, this process makes conscious awareness of these emotional states of the body, or feelings, as they arise in consciousness, epiphenomena. Even if we interpret the James-Lange theory as an explanation of how bodily changes are to be interpreted in conscious experience, as in the case of James's explanation of secondary emotions, as I have shown above, the theory still amounts to a form of epiphenomenalism. If this were the case then it would be inconsistent with claims that the theory is materialistic, for to be materialistic the theory must be consistently so and hence be able to provide an explanation for primary as well as secondary emotions and other higher mental functions. For Vygotsky a scientific theory must

be able to explain the entire range of psychological phenomena in one coherent causal system even if a distinction can be drawn between biodeterminism and sociodeterminism or those psychological phenomena which can be explained in biological terms and those psychological phenomena which can be explained in socio-cultural or historical terms. Since for Vygotsky higher mental functions are explained socio-culturally, to attempt to explain secondary emotions otherwise means that the James-Lange explanation makes feeling epiphenomenal and inconsistent with his own psychological theory. Moreover epiphenomenalism is entirely inconsistent with Spinoza's own theory. For when Spinoza says "The object of the idea constituting the human mind is the body" (Eth.II.13) he no more makes the mind the effect of the body than he does the body the effect of the mind. This he again makes plain when he shows that "The body cannot determine the mind to think, nor can the mind determine the body to motion or rest, or to anything else if there be anything else" (Eth.III.2) by reminding his reader that the mind and the body have to be understood as modes each of the attributes of thought or extension, that is as modes of substance or nature, conceived either under the attribute of thought or under the attribute of extension.

2.3.1.6 It makes emotions passive

Finally, Vygotsky's analysis of the James-Lange theory raises an objection that lies close to his own ambition for a theory of emotion. It cannot explain motivation. Vygotsky sees in the James-Lange theory an account of emotions as an "essentially passive process". In accounting for feelings as awareness of emotional states brought on by the body's response to changes in the environment, the James-Lange theory is unable to account for "striving, excitation to action, and impulse, which makes our emotions stronger and more influential motives of behaviour" (Vygotsky,

1999; 116). It is possible, I suspect, to conceive of a Jamesian theory which interprets 'striving, excitation to action' as stronger visceral responses to stimuli and as causing stronger or more violent actions but the emotional state would still be 'felt' passively, not in the sense that what is felt is the effect and not the cause of the action, for this much Vygotsky would agree with James, but in the sense that what is 'felt' would still not capture the emotion and hence the meaning of the action. Meaning is not given in emotion as understood by James. Emotion, conceived as passive, is meaningless. It is without any life or power. It is merely the internal state of the body, merely its internal milieu, its homeostasis. Even if Vygotsky conceded to James the ascription of internal differentiation of the visceral states to this or that emotion, which he does not, these would still be 'felt' states rather than 'feeling' experiences. As a consequence, having rendered the emotions passive, James is not only unable to rescue his account of 'intention', but he is quite unable to explain motivation.

The reason for the inadequacy of this aspect of the James-Lange theory lies in its inability to explain action except biologically. Granted it does give Vygotsky a causal explanation of the emotions but only in a causal sequence in which action is merely descriptive of the sequence of events. The most that can be said for this biological explanation is that it "anticipated the teaching on conditioned reflexes as the basis of behaviour" (Vygotsky, 1999; 230), but "His divergences with the theory of conditioned reflexes, not visible to casual observation" (Yaroshevsky, 1989; 113) led Vygotsky to interpose between the stimuli and response of classical conditioning the mediating role of word use and by this means, briefly put at this stage, introduces language and the socio-cultural into a theory of the emotions. Vygotsky wants to argue that the 'inner life' of human action and interaction can only be understood in

its relation to the social environment. Emotional life therefore has to be understood in comprehensive terms that include its social determination and not only its biological determination. When emotions are understood this way they become the substance of 'motives of behaviour', that is, of motivation and it is only when an explanation is given which reveals emotions as biological processes in social interaction that the substance of lived experience can be understood.

2.3.2 Vygotsky's use of Cannon's theory of emotion

Vygotsky's references to the Cannon-Bard theory of emotion are motivated by his defence of non-reductive materialism inclusive of his socio-cultural psychology. Since he finds the James-Lange theory unable to account for secondary emotions, Vygotsky expects to find in the Cannon-Bard theory an explanation of the secondary emotions consistent with those objections. Vygotsky is satisfied that from Spinoza's monistic theory a methodology can be obtained in which a mental phenomenon can be given which is entirely consistent with the biological constitution of the body, that is, an explanation could be given of the interactions of the body with its natural as well as its social environments. Nothing in Vygotsky's remarks criticising the James-Lange theory, as I have extracted them from his monograph, permits an account of emotions in a way coherent with his own socio-cultural theory. In particular the biological processing of the interaction of the body with the environment as theorised by James is, according to Vygotsky, insufficient to account for secondary emotions. Even where James's theory explains the activity of the central nervous system (CNS) in the secondary emotions, this is conceived solely in intellectual terms and not in their relation to biological processes. When Vygotsky turns to the Cannon-Bard theory there he finds an attempt to explain emotions which incorporates the activity of the CNS and in particular the processes of the neo-cortex as the medium

of the socio-cultural and as continuous with it in its phylogenesis. So though Vygotsky's socio-cultural theory has explanatory potential of its own, given Vygotsky's methodological commitment to materialism one must grant that he expected his socio-cultural theory to be in agreement with the findings of neurology and his interest in a theory of emotion expresses his ambition to find such an agreement. Vygotsky did not think he found this agreement in the James-Lange theory. The significance of the Cannon-Bard theory of emotion to Vygotsky lies in the attention he gives Cannon's neurological account.

Unlike the James-Lange theory, which is largely theoretical, the Cannon-Bard theory was constructed from the results of empirical experimental tests of that theory. Vygotsky thus employs the Cannon-Bard theory as a counterpoint to the claims of James. That is, the principal elements of James's theory can be reformulated as empirically testable propositions concerning the causes of emotions and the feelings of them. For Cannon it is not sufficient to explain emotion as feeling arising in consciousness or in conscious activity of the neocortex as a result of activity of viscera, muscle and skin relayed by afferent nerves to the CNS in response to some perceived event or stimulus. The body does indeed undergo physiological changes as a consequence of sudden signals sent to the autonomic nervous system (ANS). The hair stands on end, the heart accelerates, the mouth becomes dry, pupils dilate, the body feels cold. But for Cannon the centre of these activities is the thalamus. This small structure of the midbrain is not a centre of emotion as much as it is a relay or switching centre for activity in other parts of the brain and indirectly, the rest of the body. Cannon's point, acknowledged by Vygotsky, is that biological and neurological knowledge of this structure has consequences for a theory of emotion.

2.3.2.1 The relation of emotion to the brain

Vygotsky's objection to James's theory in respect of the relation of emotions to the brain in a materialist theory is James's claim that there are "no special cortical centres for emotion" (Vygotsky, 1999; 112 and 140). James's 'perception of the existing fact' created the conditions by which James explains the 'intellectual emotions' or 'judgement' but Vygotsky's objection is James's claim that the activity of the brain in its processing of emotions is generalised to all its parts. James makes this case because he argues that specific emotions arise in the particular response to excitation from the periphery in the viscera, skin and muscle and that these, and not the brain, give sufficiently specific responses to explain emotions. Contrary to this explanation Vygotsky appeals to Cannon's counterargument that these peripheral responses reach the cortex and consciousness mediated by the thalamus and that it is the thalamus, with feed-back projections from the cortex, that discrimination between emotions arises. Vygotsky, following Cannon, considered the thalamus the "co-ordinating centre of emotional reactions" and "processes arising in it are the sources of affective experience" (Vygotsky, 1999; 108) and hence "the problem of higher emotions …. Can find a satisfactory physiological explanation if it admits the thalamic hypothesis" (Vygotsky, 1999; 115). The hypothesis explains emotions by introducing the function of the thalamus in the experience of emotion when perception is aroused or excited by some event or object in the immediate environment. In normal conditions, when the stability and predictability of events in our environment is not a source of stimulation, excitation or arousal the activity of the thalamus is inhibited or dampened by the stability of our perceptions. In this inhibited state the thalamus, which has numerous projections to other parts of the brain, does not precipitate any activity. However, when stimuli are exciting or alarming the activity of the neocortex and consciousness of the stimuli mediated by

the neocortex cannot inhibit or dampen the responses of the thalamus to those same stimuli, and thus uninhibited it springs into action. Through efferent signals from other centres of the brain, not fully understood in Cannon or Vygotsky's day, especially the hypothalamus and the ANS, this activity of the thalamus raises blood pressure, sugar levels, increases respiration, dilates pupils and arteries and causes an inflow of blood from the periphery to protect the internal organs. These physiological responses are the origins of the emotions, the physiological substrate of them, but not the emotions themselves. These physiological responses are relayed back via afferent nerves through the thalamus to the sensory cortex and it is the combination of these efferent and afferent impulses which is the emotion and which is experienced as 'feeling' when conscious of it (Bear, Connors, Paradiso, 2007; 565-7: and also Friedman, 2010; 385). This explanation is at odds with James's explanation and has the merit of giving a coherently materialistic account of the emotions.

Cannon demonstrates the functional role of the thalamus in a number of experiments and Vygotsky refers to the results of the experiments of Sherrington and Cannon conducted on cats and dogs. When the larger part of the brain of a cat is removed up to the thalamus so that there are no other cerebral controls on the thalamus, the behaviour of these 'de-cerebrated' cats becomes uninhibited when provoked or threatened by the presence of a dog. This so-called 'sham rage' subsides when in later experiments the thalamus was completely cut away. Alternatively, if the nerves projecting to the viscera were cut instead, the cat continues to react emotionally when provoked. Hence it is projections from the thalamus, under the influence of the cortex, which send efferent signals towards the muscles and internal organs which afterwards excite afferent paths to the cortex. To add to these illustrations Vygotsky

cites instances known to him of individuals who “experience normal emotions” but who suffer paralysis of the face, thus demonstrating again the incompleteness of explanations of the emotions in terms of the actions of muscle, that is, afferent signals from the periphery (Vygotsky, 1999; 86). Again, he cites the example of another patient who, despite suffering all loss of sensation in her body, except for her face, as the result of a broken neck, nonetheless experienced “grief, joy, dissatisfaction and affection” (Vygotsky, 1999; 97). The conclusion Vygotsky draws is that the peripheral organs, in one case the musculature of the face and in the other, the viscera, are not sufficient to account for emotions. Vygotsky does not speculate concerning the relation between the nerve supply to facial muscles from the brain and emotion, advocated more recently. The evidence Vygotsky seizes upon is that Cannon has shown that emotions arise centrally, not peripherally, are dependent upon the CNS, not the ANS, and that an adequate account of emotions cannot be given without understanding the functions of at least one brain centre. Hence “James’s thesis, which states that in the brain there are no special centres for emotion must be modified in the light of new data” (Vygotsky, 1999; 112). For Vygotsky these findings mean “the cortex represents the mastery of the objective aspect of the person over the subjective emotions of the thalamus” (Langford, 2005; 106). Although Cannon, and hence Vygotsky, may be challenged in detail in the light of even more recent data, they share a coherent materialist theory of emotions which incorporates the activity of the CNS. Although nothing in Vygotsky’s monograph prompts Langford to generalise any further the direction Vygotsky intends to take is clear enough.

2.3.2.2 Visceral discrimination of emotions

Vygotsky next turns to Cannon's evidence to show that different emotions such as fear or anger arise with the same visceral changes, the same increase in heart rate, sweating, pupil dilation, cold skin, all functions of the ANS and which occasion the so-called 'fight or flight' response. Emotions arising from this response must be physiologically 'indeterminate' (Vygotsky, 1999; 78 and 83). Moreover, Vygotsky approves of Cannon's claim that 'small sensitivity of internal organs' of which we are not conscious anyway can't help differentiate between any of the emotions; nor can they distinguish between emotional states of the body and other non-emotional states such as fear or chill. All this is evidence for Vygotsky that the "specific quality of emotion is joined to simple sensation if thalamic processes are activated" (Vygotsky, 1999; 113, 82, 107) and hence not only does the thalamus engage with the body in determining emotional responses but it engages with the neocortex in discriminating between the various feeling experiences of the emotions produced. This does not mean that the thalamus is the brain centre of emotion itself, as if one could speak this way. Rather the feelings which arise in the neocortex unite with efferent impulses or signals 'to' and afferent signals or impulses 'from' the periphery mediated by the thalamus.

2.3.2.3 Co-incidence of feeling and emotion

Finally, Vygotsky also agrees with Cannon's claim, since disputed, that not only do the viscera not respond differently in different emotional states but that because excitation following perception has to travel to the peripheral organs, the viscera, and then relay back to the brain, the path taken is fractionally slower than conscious perception or awareness. That is, the emotion or body state, while processed by the

thalamus, falls below consciousness. Hence if Cannon is right, his experiments would show that in the James-Lange theory, conscious perception of the stimulating event would arise before emotion gave rise to feeling and hence one could not be happy because one smiles, but one would, as usually imagined, smile because one was happy. Strictly speaking, since Cannon places the thalamus at the junction of both pathways, one to the neocortex and the other to the periphery, the actions of the cortex and the periphery are virtually simultaneous. Nonetheless Vygotsky took this result as evidence of a conclusive defect of the James-Lange theory.

2.3.3 Dismissal of Cannon's theory

At the same time as raising these objections to the James-Lange theory from the perspective of the Cannon-Bard theory Vygotsky laces his monograph with objections to that same theory. Vygotsky regards the empirical evidence obtained from animal experiments which induced or subdue emotion by removal of the cortex or the thalamus as being unable to supply any evidence for feeling. The observer can only make very unreliable assumptions that the animal experiences the emotional changes as feelings. Furthermore nothing can be said about the nature of these feelings. In this Vygotsky agrees with Spinoza. Hence empirical evidence obtained in this way cannot yield reliable evidence of 'feeling'.

Vygotsky draws the methodological conclusion that the psychologist can only "adopt the point of view of Descartes who considered animals as robots, as reflex machines" (Vygotsky, 1999; 89). That is, the particular positivist methodology employed in these investigations inevitably lead to the dualist conclusions that are contrary to the methodological monism advanced by Vygotsky. If the thalamus

projects to the cortex and causes ‘feelings’ these are still only primitive emotions unless one can demonstrate how these undergo the transformative effects of consciousness, that is of the socio-cultural context in which these feelings are to be understood. Cannon’s theory does not attempt this explanation, hence like the James-Lange theory, the Cannon-Bard theory cannot explain secondary emotions either.

Vygotsky considers further practical objections to the results of Cannon. Cannon may have succeeded in showing that emotional expressions of rage can be induced in a cat after the removal of the sympathetic nervous system but this experimental result is limited to laboratory conditions. The whole function of the emotion is the readiness of the whole body of the animal to respond to excitation from the environment. If the animal is threatened, impulses, which may well signal from the thalamus to the cortex, also project to the SNS. Here the efferent impulses cause pupil dilation, constriction of arteries, increased blood pressure, increased sugar, and all the changes to the body necessary for action. Conceived this way the real consequences of the transections of the brain and nervous systems give no understanding of the emotions in the biological process and its ecology. Emotions “preserved under laboratory conditions are, so to speak, impotent emotions, emotions devoid of their biological significance” (Vygotsky, 1999; 90).

With methodological difficulties of this kind Vygotsky concedes that as between the James-Lange theory and the Cannon-Bard theory these are “alternatives in the sense that propose two mutually exclusive concrete solutions of the one and the same problem “and that “the new theory, like the old did not in the least approach the

solution to the main and basic problem – to constructing a psychology of human affect" (Vygotsky, 1999; 101). Both of these theories try to explain emotion 'from below' and indeed that is all that can be achieved with animal subjects. But given this methodology, even if human subjects were involved, it is difficult to imagine what other conclusions could be drawn. The famous Singer-Schachter experiment has been regarded as inconclusive precisely because introspective reports from similar excitations induced in the SNS are unreliable. Hence although Vygotsky regards the evidence of the Cannon-Bard theory as sufficient to refute the James-Lange theory on empirical grounds, not much more can be said for the Cannon-Bard theory itself. However, Vygotsky holds that the merit of the Cannon-Bard theory is that it makes an attempt to explain the role of the cortex or subcortical brain centres in the processing of the emotions, and at least theoretically, their causal relation to 'feeling' and hence the relation of feeling to the social conditions of their meaning.

Result

The complexity of the monograph is a consequence of Vygotsky's simultaneous comparative analysis of biological, psychological and philosophical theories of emotion. Vygotsky arrives at several results which convince him that contemporary physiological psychology, especially the promising James-Lange theory, cannot explain the relation of emotion to higher mental functions in a monistic psychological theory with the same coherence as Spinoza's theory explains the same relations in a monistic philosophical theory. Vygotsky's disappointment with his critical conclusions nonetheless suggests a possible solution not available to him at the time he was writing.

CHAPTER 3: THE POTENTIAL OF A NEO-JAMESIAN SOLUTION

Introductory survey

In Chapter 2 I reviewed the claims that Vygotsky was unable to complete his monograph on the theory of emotions. From a reading of the monograph I isolated the particular objections Vygotsky had to the psychology of his day, especially to the Jamesian theory of emotion to which he had turned in the expectation that it might serve to transform Spinoza's philosophical theory of emotion into a scientific theory consistent with his own socio-cultural psychology. For reasons given by Yaroshevsky (Yaroshevsky, 1999: 264-265), namely how Vygotsky may have intended to complete his monograph, Vygotsky nowhere explains Spinoza's theory of the emotions and he does not explain how the particular problems he encountered might be explained from the position argued by Spinoza. Responding to Yaroshevsky's suggestion I offered Spinoza's explanations of some of these difficulties. To continue with this line of argument, in this chapter I shall show that Vygotsky was closer to the solution than time gave him to find. To do this I shall offer a synoptic account of Spinoza's theory as I understand it showing its relevance to my broader argument. I will explain why Spinoza's is an 'embodiment' theory of emotion and in particular explain why and how Antonio Damasio connects his own Neo-Jamesian theory of the emotions to Spinoza's theory. I will argue that the Neo-Jamesian theory is the scientific form of Spinoza's theory to which Vygotsky would have turned to advance Spinoza's own theory. I shall do this by showing how Spinoza's causal explanation of emotion reappears in a Neo-Jamesian explanation of, first, primary emotions and second, the work of imagination and memory. I shall then show how Damasio's Neo-Jamesian theory, consistent with Spinoza's explanation, addresses Vygotsky's objections to the Jamesian theory I had isolated

in Chapter 2. I shall conclude with a brief preview of the research problem exploring why Damasio's Neo-Jamesian theory, on the one hand is able to account for the biological genesis of the secondary emotions, but on the other hand is unable to account for the interaction between emotion and the development of social concepts and hence motivation, without turning to Vygotsky's linguistic theory of concept development and Vygotsky's own interest in Spinoza.

3.1 Synopsis of Spinoza's theory of emotion relevant to this part of the argument

Understood very comprehensively Spinoza's theory of emotion is an explanation of the interaction of the human body with its natural and social environment motivated by an epistemological theory of the relation of the mind to the body or concepts to the world, that is, the way concepts relate to their objects. Spinoza does not conceive of emotions as transient or ephemeral epiphenomena of our sensory experience and knowledge of nature but on the contrary as absolutely integral with that knowledge and experience. So he begins in the third part of the Ethics declaring, in a line often quoted by Vygotsky, that he does not regard human emotional experience as 'a kingdom within a kingdom' and separate from the kingdom of nature. Our effort to understand the relation of the body to the rest of nature, and this cannot be achieved without our understanding the emotions (affects), is the same as to understand the relation of the mind to the body, since 'The first thing which forms the actual being of the human mind is nothing else than the idea of an individual thing actually existing' (Eth. II. 11). But since the mind needs an object in order to have knowledge of itself and 'The human mind does not know itself, nor does it know that the body exists, except through ideas of affections by which the body is affected' (Eth. II. 19), it can only know the body in the interactions

of the body with another body or the rest of the natural and social environment. That is, as one body contacts another, the contact is reflected internally to both bodies and the reflection, or better still, refraction, since further action follows from this, is the mental and emotional activity of each body. Understanding this is a special instance of understanding how nature appears to us as divided into what Spinoza calls the 'attribute of thought', or nature conceived as a thinking thing, and the 'attribute of extension', or nature conceived as extended in space and time, hence "The object of the idea constituting the human mind is a body, or a certain mode of extension actually existing, and nothing else" (Eth. II. 13). The significance of the concept of 'attribute' is not crucial here and I shall return to it in another section, but the relation of the mind to the body is understood, not by trying to understand the relation between the 'attributes' directly, though philosophical understanding of this can be won by struggling with Part I of the Ethics, but in knowledge of the interaction of the body with its natural and social environment. Once these interactions are understood then it follows that the actual relation between the 'attributes' is understood. It is only when we have a complete knowledge of the body in its interactions with the environment, that is, knowing how nature is refracted through the body and represented to us, that we can have a knowledge of nature undivided by any 'attributes'. This is the aim of science or philosophy as Spinoza conceived it and its scope makes this part of his philosophy truly visionary.

These interactions therefore cannot be understood solely in empirical terms as they would be understood from a positivist theoretical perspective. Spinoza does not say there can be no such scientific knowledge. He was, in fact, keenly interested in the positive science of his day, as his correspondence attests but he does propose, and this is the origin of the difficulty of accommodating Spinoza's theory of emotion to

positive science, that empirical ideas or concepts, inasmuch as they are contingent, are incomplete, or to use his term ‘inadequate’. Empirical knowledge is organised from contingent experience, including emotional experience, and accounts for what Spinoza calls ‘images’ or ‘inadequate ideas’, what I shall try to show Vygotsky calls ‘spontaneous’ or ‘everyday’ concepts. Images are formed inductively and our language of general class terms, in Spinoza, ‘signs’, captures these generalised images in speech. Scientific knowledge formed inductively and by the effort to extend the use of class terms to economise in our ability to predict and understand events in the ‘common order of nature’, that is, nature understood empirically, is therefore not excluded by Spinoza from our efforts to understand natural phenomena. But he does regard the ideas constituting this ‘first kind of knowledge’ as ‘inadequate’. In this respect he is a fallibilist, not unlike Mill or Popper.

To obtain ‘adequate’ ideas of nature, our contingent experience, including our emotional experience, has to be ordered, not by general class terms, for, as I have shown, these are themselves inadequate constructs upon contingent experiences or images of them further represented in speech as signs, but by a higher order concept or ‘adequate idea’, itself also knowledge of nature. It is worth noting, in passing, that this relation between adequate and inadequate ideas anticipates the relation between Vygotsky’s ascending spontaneous concepts as they are organised by descending scientific concepts. Like Vygotsky’s scientific concepts Spinoza’s ‘adequate ideas’ represent knowledge of the most general or essential properties of nature shared ‘in the part and the whole’, that is, common to this or that object or body and the whole of nature. Spinoza explains this in the famous ‘physical digression’ in Ethics I.13. In the lemmata there he claims one of the most essential properties of nature, conceived under the attribute of extension, is its ‘motion-and-

rest', that is, the causal interactions between the various parts or 'modes' of nature of every size and description from atoms to human bodies and upward to social and political relations. Under the attribute of thought these causal interactions reappear as what Spinoza calls 'common notions' or reason and our use of these common notions or reason amounts to giving a causal explanation, the standard of explanation shared by both Spinoza and Vygotsky, as I have shown above (2.3.1.3). Hence for Spinoza 'reason' has a natural origin under the attribute of extension and is an activity of nature conceived under the attribute of thought. For Spinoza then all rational explanation is causal, whether in the physical, psychological or political sciences. It is in thinking in terms of common notions that we can order our emotional experience and have knowledge of and understand nature in its different levels of causal interaction, what Spinoza calls 'knowledge of the second kind'. Since our body is part of the 'common order of nature' we can acquire common notions and hence knowledge of nature only when we understand the relation of the mind to the body and while we do not understand this relation in our day-to-day experience we do not understand how the rest of nature is represented to us except through the narrow window of contingent sensory experience and our language for this experience. It is in that relation, properly understood, that the mind exactly is the body, that is to say, when our concepts correspond to their objects. These concepts are therefore not general class terms or Vygotsky's spontaneous concepts but are like Vygotsky's scientific concepts for in this case scientific concepts, like adequate ideas, both individually as systematically summarised by a word and in their inter-deducibility or 'concatenation' as Spinoza says, 'ascend to the concrete', as Ilyenkov would say, just insofar as they explain physical, psychological and social phenomena, not in their general quantifiable features but in their natural qualities or essential properties.

For Spinoza a ‘body’ is only such because its parts move together in their interactions with nature. It is its ‘motion and rest’ in its interactions with nature which constitute its coherence as a body and this is true wherever several bodies, or ‘modes of nature’ as he calls them, also retain their ‘motion and rest’ together, so that social relationships of one kind or another are also modes of nature inasmuch as the ‘motion-and-rest’ of its parts retain their overall coherence. The interactions between the various complex modes of nature including especially the interactions of individuals and their social and political interactions insofar as these individuals are also social, constitutes particularly the complexity of emotional experience and these experiences either subvert or advance our individual activity.

Spinoza’s study of this particular problem constitutes his psychology of the emotions and it belongs embedded in the visionary program of philosophy or science as he conceived it. The purpose of his psychology of the emotions can now be understood. It has two interrelated aims; first, to give an explanation of how the interaction of the human body with nature causes emotional experience, and second, to explain how this experience, especially in its social genesis, variously subverts, hinders and demotivates, or advances, helps or motivates, our activity.

3.2 The psychological context of Spinoza’s theory of emotion

With this overview it is evident that Vygotsky found in Spinoza a theory consonant with his own. In order to clarify this and indicate where Vygotsky stands in relation to other theories of the emotions and why Vygotsky is close to Neo-Jamesianism I shall demonstrate briefly Spinoza’s theory in relation to cognitivist, recent appraisal and Neo-Jamesian theories of emotion.

3.2.1 Spinoza's theory is not consistent with cognitivist theories

Cognitivist theories are intentionalist. That is, they have, to use Helm's phrase 'mind-to-world direction of fit' (Helm, 2010: 307) and hence emotions are to be accounted for as themselves cognitive and mental phenomena in which emotions are conceived as rational judgements about events which stand in an external and objective relation to individual minds. For example, in accounting for feeling happy a cognitivist would argue that someone, event or thing is such that I can give a reason why that individual or event is the object of my happiness. This is not entirely to give a causal explanation since such an explanation would discount the significance the 'other' has to 'me' prior to my 'feeling' experience and the significance of the other is embedded in a myriad of other unexplained experiences, thoughts, reasons and other emotions. Hence a researcher who was a cognitivist would be interested in asking someone thinking about their feelings, questions like 'Why do you think you feel this way?' or 'What do you think made you so happy?' and the answers would constitute 'reasons'. So where William James says 'I am frightened because I run' the cognitivist argues 'I run because I am frightened and I am frightened because I have reason to believe that that person is going to hurt me'. Such an account is not ruled out by Spinoza, but for Spinoza, to be able to give a reason is the same as to have higher order or rational control of ones emotions. But this is not to say, as cognitivists must argue, that rationality is divorced from the emotions. Rather it is to say, as Vygotsky wants to show, that emotions are ordered by higher order concepts or as Spinoza calls them 'common notions' which have the same experiential origin as do emotions, namely, the body. What distinguishes common notions from the contingent experiences of the body is not that they are not empirical, they are, but that these concepts arise from interaction with any part of nature whatsoever and

more especially from interaction with other human bodies, for these concepts, having in common knowledge shared by a part of nature, a human body, with the whole of nature (Eth.II.37), are therefore ideas under the attribute of thought of the most common properties of nature conceived under the attribute of extension, namely the motion-and-rest of its various parts together. Hence these higher order concepts are the means by which the emotions and any contingent experience can be ordered into a scientific explanation of their occurrence. Since cognitivists do not conceive of the relations of different concepts to themselves in this way (and if they did they would have adopted Spinoza's theory of mind) they must retreat to intentionality in an account of mental phenomena, including the emotions. Though Spinoza can give an explanation of intention, "there exists no absolute faculty of understanding, desiring, loving" (Eth.II.48, Note) or 'will', 'intention' or 'intellect'. These are what he calls 'faculties' or 'affirmations' by which any assertion is true. They are ways I have of talking about my ideas but they add nothing to those ideas. I cannot 'will' that a triangle has three sides any more than I can 'will' someone to love me if all the evidence is to the contrary. Since for Spinoza to give an explanation for something is to give its causes, the more I understand the causes of something the more do I understand my part in its explanation. A cognitivist interpretation could be given of William James's theory for in this case the higher emotions or 'judgements' as James called them such as moral satisfaction, gratitude and pleasure solving a problem, cannot, appraisal theorists would need to argue, be explained as the 'basic' emotions can be explained, as consciousness of visceral changes aroused non-consciously by perceptions of environmental cues. Of this problem Vygotsky says "James had to admit that such calm emotions, passing with no bodily excitation, may be ascertained in man" (Vygotsky, 1999; 114). It was this cognitivist component of James's theory and its failure to account for the emotions in a monistic theory that

led Vygotsky to reject James's theory. Hence, neither Spinoza nor Vygotsky are cognitivists.

3.2.2 Spinoza's theory is not consistent with appraisal theories

The broad spectrum of appraisal theories of emotion are more easily accommodated to Spinoza and Vygotsky than are cognitivist theories though there remains a cognitivist component in some of these theories. Unlike James's explanation for arousal of basic emotions, appraisal theorists, somewhat like cognitivists, put cognition or perception of an emotion at the commencement of an emotional phase as a 'feeling' but hold that perception and the bodily responses or emotions that follow may occur below the level of awareness, and remain non-conscious. Hence, like James emotions are constituted by bodily changes as an appraisal response to some environmental cue or are the result of conscious appraisal of those emotions, the conscious appraisal constituting the feeling. In this case an appraisal response can entail bodily changes or emotions of which I can have no conscious feeling. Appraisal theories would not regard these bodily responses as true emotions. On the other hand conscious appraisal can decide the feeling of the emotion. Hence in the same environment the appraisal response of two individuals could be quite different. The same environment could arouse an appraisal response readiness to fight in one individual and readiness to run away in the other. Consciousness of the threat would mean I became angry in one appraisal and intimidated in the other. For Prinz (2012, 242-247) the principal weakness of appraisal theories lies in the restrictive use of 'emotion words'. If the sense of the word is different in the case of 'I love food' and 'I love you' how can my speech or my thoughts about what I say inform or inspire my feelings. This is not to say that the sense of a word cannot change with its place in an utterance or in the circumstances in which the utterance

is made but it is questionable whether the perlocutionary force of the speech act is sufficient to discriminate between emotions or to determine an emotion or emotional motivation. Speech is itself motivated emotionally so what is needed is a theory of emotion sufficiently comprehensive to explain the relation between, on the one hand, bodily emotions and feelings, which the appraisal theory includes in a limited form, and on the other, a theory of concept development which engages speech directly with emotion. For Spinoza words are mere 'puffs of air'. For words to obtain the role appraisal theories want them to obtain their use must themselves be emotionally motivated.

For Spinoza all the activity of the body, what he calls 'appetite', carries on with emotional effect and can continue below the level of awareness. When we are conscious of 'appetite' then, Spinoza adds, we 'desire' the object of our actions. Although 'intention' might be explained in this way Spinoza's purpose is to argue that if we can give a causal explanation of our 'appetites' we are thereby conscious of them and the more of our activity we can explain in causal terms the more readily can we transform passive emotions into the active emotions which motivate further activity. The means for this is our understanding of higher order concepts, what Spinoza calls 'adequate' ideas, 'adequate' because ideas are merely more or less 'adequate' in our task of ordering our activities and obtaining autonomy in them. The retreat to 'intention' makes this impossible. Vygotsky's insight is in transforming Spinoza's 'adequate ideas' into a hierarchy of complexes, pseudoconcepts and concepts in which higher order concepts organises lower order concepts. Where in Spinoza the further means of achieving this is in the common notions that are socially distributed, in Vygotsky this ordering of concepts is mediated by the progress made in internalising speech, and in particular, speech which mediates those social,

cultural, scientific, and historical developments which are the means of individual learning and hence development, further creativity and autonomy. Vygotsky detected an empirical component of the solution to the problem addressed in his monograph on the theory of emotions in the Jamesian theory and the methodological implications of this in the theory of Spinoza. Methodological monism requires that James's empirical explanation of the basic or primary emotions be extended to include the higher or secondary emotions. In Spinoza's theory the relation of primary emotions to secondary emotions is mediated by the process of their conceptualisation and the discovery that this process obtains a transformation or metamorphosis of emotion into motivation and the motivation of thinking and speech. Hence, as against appraisal theory, Vygotsky asserts "Thought is not the superior authority in this process (of verbal thinking)… Behind every thought there is an affective-volitional tendency… A true and full understanding of another's thought is possible only when we understand its affective-volitional basis" (Vygotsky, 1986; 252). Hence appraisal theories would be regarded as deficient by both Spinoza and Vygotsky.

Cognitivism assigns motivation to intentionality. As a consequence cognitivism has no role in this for the body and the visceral and homeostatic changes that sweep through the body as emotional experience. Though the appraisal theory does seem to take the body seriously, the relation of appraisal to emotion renders the emotions as passive much in the way as did James's theory, as Vygotsky observed, and in this relation the potential for the emotions to transform thought, that is, to motivate thought, is as diminished in appraisal theories of emotion as it is in the cognitivist theory. Hence neither Spinoza nor Vygotsky can be accommodated to either the cognitivist or appraisal theories of emotion.

3.2.3 Spinoza's theory is consistent with Neo-Jamesianism

The principal difficulty with cognitivist and appraisal theories is that these showed an essentially Cartesian, conception of the relation of thought to emotion. For judgement to be made to assign emotion thought must be conceived as discontinuous or split away from emotion rather than as continuous with it 'in' the same body. The principal result of this philosophical problem is that neither theory can give a coherent empirical psychological account of the role of emotions in motivation. The cognitivists retreat to intentionality requires the effort of 'will' to do all the work while appraisal theorists render emotions as passive. Significantly for both theories the body is marginalised and diminished. The Neo-Jamesian theory represents an advance over cognitivist and appraisal theories in that taking the lead from the Jamesian theory Neo-Jamesians want to argue that appraisals, including James's 'judgements', are themselves embodied.

Where the Jamesian theory traces emotions as the perception of bodily changes triggered by autonomic nervous system responses to some environmental stimulus, the Neo-Jamesian theory of Antonio Damasio engages the neocortex in those physiological responses that demand our conscious attention. So-called 'quick-and-dirty' emotional responses brought on by the amygdala when a threshold in the action of the thalamus has been reached occur before and below the level of consciousness. My conscious awareness of the circumstances of my emotional response may catch up with these autonomic actions and I may then consciously 'feel' the emotion. At that stage I may consciously appraise either the circumstances

of my feelings or the feelings themselves in the light of experience or speculation and this feedback may even change the emotion.

Emotions are therefore embodied responses to conscious or non-conscious perceptions of some event in the environment. When these embodied responses are non-conscious they are emotions and they can be called ‘feelings’ when we are conscious of them. It follows that emotions are not thoughts as appraisal theorists want to argue but that feelings of emotions are thoughts and emotions are bodily changes that give rise to feelings. For example if I am surprised by some event or stimulus my surprise will consist in bodily responses fed from the moment of perception through the thalamus, amygdala and other circuits of the central and peripheral nervous system to the viscera and muscles and back to the neocortex. The emotion of surprise can therefore arise spontaneously and before I become aware of it. I do not need to be conscious of my surprise to be surprised. The evidence of this is those occasions when someone watching our response to some event says something like ‘You should have seen your face!’ This remark may even trigger my embarrassment but here again my emotion of embarrassment is surely not a ‘thought’ as appraisal theorists insist. I could avoid this objection by assigning ‘surprise’ and ‘embarrassment’ to non-conscious appraisals of bodily responses which I experience as feelings. This would allow me to say my surprise or embarrassment was a feeling rather than an emotion. But if my emotion is decided by my appraisal this would mean my surprise or embarrassment could be transformed from a feeling to an emotion by it and this surely does no justice to the momentary experience of surprise or embarrassment, both of which are distinctive emotions wired to very particular interactions between the viscera and musculature on the one hand and complex details of the central and peripheral nervous system

on the other. Like surprise and embarrassment, Vygotsky observes, like Darwin and much in the way Zajonc and Plutchik have recently, that 'intellectual feelings, curiosity and interest', "in and of themselves… possess an extraordinary imperceptible physical expression, confined for the most part to slight movements of the eyes and face" (Vygotsky, 1997; 109).

This arrangement, if consistent, gives the Neo-Jamesian theory greater explanatory power of the data than the cognitivist or appraisal theories. It enables an explanation of non-conscious appraisal as bodily changes or, which is the same thing, emotional responses to our environmental stimulus, and the conscious awareness of these appraisals consistent with the Jamesian theory. Assigning conscious awareness of emotions to feeling enables an explanation of the modulation of feeling by conscious appraisals. Moreover conscious appraisals can further stimulate those bodily changes which constitute emotion by a process of 'feedback'. Finally, the explanatory power of this theory is extended further when one considers that conscious appraisal can consist of remembered or imagined appraisals and that these past or speculative appraisals can further modulate feeling or the feedback of emotion. It would not be sufficient to simply re-label the Jamesian theory's 'judgement' or 'intellectual emotion' as appraisals. This would be dallying with the word 'appraisal'. But if it can be shown that thought is emotionally motivated and that the reach of emotion is as pervasive as experience shows it to be, as Spinoza repeatedly reminds his reader throughout the Ethics, then the Neo-Jamesian theory has confirmed and corroborated the ambitions of Spinoza and Vygotsky in reasserting the status of the human body as the proper focus and concern of psychological and educational enquiry and its social ramifications.

By asserting the status of the body against the claims of idealism and dualism Spinoza was able to assert, in the Ethics, the conditions of its proper functioning, and challenge, in the Theologico-Political Treatise and the Political Treatise, the claims of autocracy, authoritarianism and tradition, shored up by idealism and popular religion, as contrary to the democratic conditions of individual liberty and well-being. Vygotsky, like Marx, seems to have found in Spinoza a kindred spirit and in the Ethics the solution to the problem of the theory of emotions consistent with his own psychosocial theory, and a remedy, both personal and professional, against the increasingly burdensome obstacles mounted against his progress as the Soviet experiment turned inwards upon itself and toward authoritarianism.

3.2.4 Spinoza's theory is consistent with the Neo-Jamesianism of Antonio Damasio

Because Jamesian and Neo-Jamesian theories of the emotions have foregrounded emotion rather than cognitive mental states these theories have been regarded as empirical versions of the epistemology of David Hume. Damasio's Neo-Jamesian theory is not Humean but Spinozist so it is necessary to my argument to offer a defence of Damasio's philosophical position. Neu has argued that because Spinoza regards "emotions as essentially thoughts with feelings attached" he can "account for ranges of intellectuality among emotions and within particular emotions" (Neu, 1977, 1-3). In making his case for Spinoza as "the philosopher of psychoanalysis" Neu compares him with Hume, who "treats emotions as essentially feelings ('affects' or 'impressions') with thoughts incidentally attached" and hence argues that the comparative weakness of Hume's treatment is that, unlike Spinoza's, it restricts discrimination between emotions. This follows because the incidental attachment of thought to the emotion rather than the attachment of emotion to thought makes it

difficult for one to believe that there is a particular object or cause for any emotion one might feel. On this account Neu regards Hume's theory of emotion as anticipating the Jamesian theory of emotion and in this conclusion Neu shares Vygotsky's objections to the same theory.

On the other hand Helm (2010; 303-323) argues that the Humean theory, with its tendency to render motivation as little more than a basic impulse to move, is 'implicit' in the Neo-Jamesian theory advanced as a development of the Jamesian theory. Helm wants to argue that emotions motivate and that the Neo-Jamesian theory cannot explain this any better than the Jamesian theory. For Helm "what is missing is that desires are for things that are worth pursuing" and that "for something to have import to you – for it to matter to you, for you to care about it – is for it to have a kind of worth" and that consequently emotions are "intentional feelings of import". Helm thus introduces 'intentions'. According to Neu "Spinoza holds a strong thesis of intentionality" and quotes Ethics, II, Axiom 3, where Spinoza proposes there are no modes of thought such as love or desire "unless in the same individual exists the idea of a thing loved, desired, etcetera". Setting aside for the present the question whether Spinoza does argue the intentionality thesis, if Neu is correct in holding that Spinoza's theory is better able to explain motivation than Hume's, or indeed James's, and Helm is correct in regarding Neo-Jamesianism as lacking a theory of intentionality able to account for motivation, it would appear that Helm would want to make a case for Spinoza or for a Neo-Jamesian theory informed by Spinoza. But since both Neu thinks the Jamesian theory and Helm thinks the Neo-Jamesian theory are each versions of Hume's theory it would appear that the Neo-Jamesian theory is not a development of the Jamesian theory after all. However, as evidence of a Neo-Jamesian, Helm cites Damasio and in particular the way Damasio

assimilates fear, anger, pleasure, drives and motivation itself to homeostasis. It is the explanatory significance Damasio accords homeostasis with which Helm takes issue for the objects "worth pursuing" invite "responses that sometimes rationally demand intentional action" and for Helm intentionality simply cannot be explained in terms of the bio-regulatory function of homeostasis. For Damasio, "This does not appear to be the case… single cells also appear to have intentions and aboutness" (Damasio 2010, 90-91). Moreover since "Brentano actually saw the intentional attitude as the hallmark of mental phenomena" the results of biology offer "one more reason to deny the intuitive abyss between the mental and the physical worlds". So it is curious that Helm did not point out that it is not Hume that Damasio seeks to 'connect' to the "advances on the science of emotion and feeling" and "to some of the corresponding neurobiology of today" but Spinoza, who Damasio calls "the protobiologist" (Damasio, 2003, 14). Damasio's Neo-Jamesianism is not Humean but Spinozist. The advance from a Jamesian to a Neo-Jamesian theory consists in the absence of Spinoza in the former and his presence in the later theory and this advance seems to have been anticipated by Vygotsky in his monograph on the emotions as I have attempted to demonstrate (Chapter 2). As I have just hinted and shall try to explain below in detail, it is not the philosophical thesis of 'intentionality' which determines consciousness, but biological function. Damasio is surely right. For Spinoza motivations are what he calls 'appetites' and consciousness of these are our 'desires'. "Desires are for things that are worth pursuing", says Helm and these things are the kinds of things we regard as worthwhile. Those things are not simply the need for food and water. Nor are they the performance of those actions that obtain reward, but higher order active emotions that arise in our social relations. It is in those relationships of responsibility, co-operation, friendship, tolerance and democracy where some psychologically meaningful account of 'intention' can be given.

To look ahead a little, I shall attempt to demonstrate below that Antonio Damasio, referring to Spinoza, explains hierarchies of concepts as increasingly more complex and comprehensive neural patterns or "topographically organised representations" (Damasio, 1995, 101) of patterns of changes in body states or emotions. Damasio's explanation embodies emotion at every level of human activity, except in its intersection with speech, but looking ahead again I shall attempt to show that Vygotsky, himself referring to Spinoza, is pointing the way to a Spinozist, Neo-Jamesian theory of motivation where the corresponding ordering or nesting of concepts is obtained during emotionally motivated dialogue. I shall attempt to show that the interiorisation of speech, which occasions the development of higher order concepts, is simultaneously motivated by the transformation of passive into active emotional experience as explained by Spinoza. I shall attempt to show that this transformative function of emotion was the component function Vygotsky sought for his unit of analysis described at the end of Thought and Language.

Result

It is claimed for Damasio that his theoretical perspective, explained by him in his professional and popular academic writing, is Neo-Jamesian and his biological and neuroscience theory of emotion, Spinozist. After reading the relevant work it seems reasonable to conclude, despite omissions by Damasio from Spinoza's arguments, that Damasio's theory of emotion has the potential for resolving the objections Vygotsky raised against the Jamesian theory of emotion set out in Chapter 2.

CHAPTER 4: RESEARCH PROBLEM AND RESEARCH QUESTIONS

Introductory survey

The subject of this chapter is the formalisation of the research problem as far as the nature of the subject permits. The research problem centres around the potential of Damasio's Neo-Jamesian theory and how this theory can serve in a response to Vygotsky's objections to the earlier Jamesian theory. This potential will be explored by means of strategic research questions. The answers to these questions resolve the problem of the relevance of Damasio's Neo-Jamesianism to Vygotsky and permit progress through the thesis in steps or stages and hence arrive at a potential version of the unit of analysis informed by the results of considerations of Vygotsky's monograph.

Having in the previous chapters surveyed Vygotsky's unfinished monograph on the emotions, observations about that work and its contemporary significance by Vygotsky scholars, I will survey the problems raised and mark a path through those problems with four principal questions to be addressed in the chapters that follow.

In this chapter I shall give a comprehensive overview of the principal problem and its sub-problems so that the sub-problems do not obscure my main thesis. The thesis can be put simply if one regards Spinoza's theory of emotion as the middle term in an argument with Vygotsky's and Damasio's interpretations of Spinoza as the major and minor terms. Put another way I shall aim to show that the work of Damasio is relevant to Vygotsky in that Damasio explains the relation of biology to the emotions

in a way Vygotsky already suggests. Equally, I shall show that Vygotsky is relevant to Damasio, and to neuroscience generally, in explaining the social significance of the emotions in speech and their part in the motivation of concept development. Both Damasio's 'base-up' explanation and Vygotsky's 'top-down' explanation are Spinozist.

4.1 The principal problem

The broadest construction of the problem has to explain how a Vygotskian theory of emotion could interact with or explain the development of social concepts. Of these two components of the problem the first entails some sub problems. The verdict of Vygotsky scholars, that his monograph on the emotions is unfinished, poses a general or principal problem. Towards the end of Thought and Language, which he wrote at the same time as Theory of Emotion, Vygotsky raises the question how an 'affective-volitional' function would complete his unit of analysis (Vygotsky, 1986, 252-3) or his psychological 'cell', that is the minimum unit in which memory, intelligence, speech, imagination, reason and emotion function together as part of the seamlessness of our 'inner' and mental life. Hence Vygotsky's ideas about the 'affective-volitional', or motivational, have a bearing on his linguistic theory of concept development, for if we wish to argue with Vygotsky that mental development is partly a functional effect of learning and that learning is not entirely contingent upon prior mental development, an explanation of the conditions in which learning does and does not motivate is crucial for an understanding of mental development. Learning, and hence the mental development of the child and the adolescent, and hence also the adult, depends upon particular motivational conditions. Learning does not, of itself, and considered without relation to emotion, motivate. The function, additional to Vygotsky's 'unit of analysis' and crucial to the possibility of

learning and mental development, is emotion, indeed emotional health and well-being. The conditions for this at home or at school are therefore social. The social conditions of a school can be demotivating and painful where the autonomy and self-regard of the adolescent is made a struggle. On the other hand informed and responsible organisation, sensitive to the emotional health and well-being of the adolescent, means the creation of particular conditions for learning and mental development that can be called 'social' in the full sense of the word. What these conditions are is the most general sense of the problem and its principal significance.

At this very general level, Yaroshevsky suggested (Yaroshevsky, 1999, pp 264-266) Vygotsky would have completed the monograph by showing that Spinoza's monistic theory of mind is consistent with sociodeterminism and that the 'higher', 'social' or 'secondary' emotions could be shown to be determined by cultural-historical phenomena. Given the contents of the monograph it is more likely that Vygotsky would have attempted an interpretation of Spinoza's theory of emotion that would permit "a testing of his (Spinoza's) ideas in the light of contemporary scientific knowledge" (Vygotsky, 1999 p 105) which would have resolved his objections to the James-Lange or Jamesian theory of emotion, in particular its inability to explain the secondary emotions in a way methodologically consistent with its physiological explanation of the primary emotions. Unlike Yaroshevsky, Vygotsky conceived of a monistic empirical psychology inclusive of biological, mental and social phenomena. While Yaroshevsky thought Vygotsky would explain the secondary emotions on the social 'plane' of development, Vygotsky wished to incorporate 'contemporary scientific knowledge' of biological phenomena into his account.

Recent developments in physiological psychology and in neuroscience have shown that higher, or 'executive' mental functions, including secondary emotions, can be given the same biological explanation as can elementary mental functions and primary emotions. In particular, advances in these fields that appear to account for explanatory defects or deficiencies in the Jamesian theory, especially as revealed by the Cannon and Singer-Schachter theories, has led to neuroscience explanations that can also be termed Neo-Jamesian. Of the various Neo-Jamesian or neuroscience explanations of higher mental functions and secondary emotions Cromby (Cromby, 2005, p 295-297) and Daniels (Daniels, 2001, 27 and 47) have remarked on the special relevance of the theories of Antonio Damasio to Vygotsky and why they "appear compatible" (Cromby, p 297). I shall give an account of this relevance and go on to argue that Damasio's declared Spinozist perspective has the potential for resolving Vygotsky's objections to William James and provide for a Spinozist theory of emotion consistent with the empirical interpretation of Spinoza that Vygotsky planned in his monograph. I shall therefore return to the objections Vygotsky raised against the Jamesian theory I isolated from Vygotsky's monograph on the Theory of Emotion, and mindful that Damasio was not addressing these particular objections with Vygotsky in mind, show how these are met from my survey of Damasio's Spinozistic theory of emotion and hence offer a methodological test of the sufficiency of Damasio's theory of emotion for Vygotsky's purpose, namely a theory of motivation. This can be put in the form of a fundamental research question which must be answered before anything else can be attempted without speculation: Does Damasio's interpretation of Spinoza's theory of emotion and its development in a biological theory meet Vygotsky's objections to the Jamesian theory of emotions?

Only after that preparatory analysis will I be able to address the principal problem. This can be put as a question as follows: What is the relation of emotion to the development of social concepts?

However, nested within this principal problem and the question it raises, with its possible answer, lies a further, deeper problem of the interpretation of Spinoza by Damasio.

4.2 Problem of interpretation

With reference to Damasio I shall show that in the interpretation of Spinoza's theory of mind he omits elements important to Spinoza's own arguments. While Damasio's interpretation of Spinoza may be sufficient for a solely biological theory of the emotions and his omissions not essential for our understanding of his vast work, if one seeks in Damasio a Neo-Jamesian or neuroscientific theory with sufficient explanatory power to accommodate biological and social phenomena in a non-reductive synthesis as do Cromby and Daniels, these omissions create problems for the compatibility of Vygotsky and Damasio. This is especially interesting if Vygotsky and Damasio share common philosophical ground in Spinoza as they have declared.

A minor problem arises in Damasio's account of the role of memory in emotion but a further and very significant problem arises where Damasio gives his account of what he calls 'extended consciousness'. I shall attempt to show that a possible solution to these problems is found by appealing to a more complete version of Spinoza's theory of mind and one that is consistent with Vygotsky's understanding of Spinoza

as revealed in Theory of Emotion as well as his linguistic theory of concept development. I will then be able to show that the relation of Vygotsky to Damasio lies in a Vygotskian solution to the problem of 'extended consciousness', that is, that Vygotsky's linguistic theory of concept development completes elements of Damasio's biological theory that attempts to account for social concepts without a theory of language. Hence the problem set out in this section could be represented in the question: Why is Damasio's interpretation incomplete and how does this lead to a problem concerning his notion of 'extended consciousness'?

To reach that stage I attempt a version of Vygotsky's unit of analysis incorporating a Spinozist theory of emotion. Methodologically this is a further sub-problem (4.3 below) nested within the problem of this section (4.2), but psychologically it is of a piece with the problem of 'extended consciousness' and its possible solution in Vygotsky's theory of concept development as I shall attempt to demonstrate.

4.3 Problem of the unit of analysis

Vygotsky has amply explained how concepts, and hence thinking with concepts, develop with the use of language. But the use of language is also motivated by the development of the concept because development signals increased emotional activity. This is the significance of the 'affective-volitional' function Vygotsky sought to incorporate into his unit of analysis. His unit of analysis is at once a methodological tool of explanation and the simplest psychological or mental phenomenon, moment of experience or 'qualia'.

If at one stage a word has been given ostensive or referential meaning but cannot be used in an explanation or a description in ordinary language, the development of the concept in the next stage expands the meaning, or concept, and hence the use of words. Hence some words can be used in one 'inductive' process as class terms to generalise in referring to objects and events, while other words, and even the same words, can be used in another process to organise together general class terms in new perspectives capable of explaining the relations of those objects and events. The same words can serve as 'tools' in both processes of concept development. The use of language in an 'inductive' or generalising process augments the development of what Vygotsky calls 'spontaneous' or 'everyday' concepts, while the use of language in a 'deductive' or explanatory process augments the development of what he terms 'scientific' or 'academic' concepts. In either case the main point here is that children and students at school or university do not form concepts in a vacuum, in the abstract, or as a consequence of some mechanical processes of teaching which are instructional, expository or didactic. Teaching is not 'telling' or 'talking'. Unless the relationship between teacher and student is motivated by dialogue it will be possible for children or students only to form what Vygotsky calls 'pseudoconcepts' in this way and to use language to feign understanding, and there is no doubt that some students spend many hours fretting over how they may use language to convince others that all is well, when it is not.

To reveal what is happening here it is necessary to explain the reciprocal relations of word use to concept development as well as motivation. That is, to attempt to explain how word use, especially in a dialogue, is also motivated by concept development and conversely how concepts develop because their development is psychologically related to the motivation to speak. The motivation to speak and to

use language for the development of understanding and powers of comprehension is given in the increased emotional activity or emotional well-being that accompanies the development of conceptual thinking. For as the students' own world view is expanded by the explanatory power of concepts and their internal systematic and external deductive interrelations, so the student increases in autonomy, mastery and maturity as an emotional state. Concepts are formed in word use in a dialogue which is not only rewarding at one stage but is, at a later stage, especially during adolescence, consolidating the emotional well-being of the student as an autonomous agent, not needful of or responsive to, rewards, punishment, praise or blame. Speech is motivated by the emotional conditions of its use and its use is motivated when it serves further concept development and its accompanying emotional activity. More than this, emotions, as Spinoza, Vygotsky and Damasio urge, are states of the body and both emotions and our consciousness of them, feelings, trace our mental processes. Concepts develop and their development is embodied in emotional activity distributed through the body and the circuitry of the brain. Hence an explanation of concept development and how the emotional conditions for it are mediated by the use of language shows the relation of Vygotsky's completed unit of analysis to his linguistic theory of concept development. Moreover the unity of these two accounts resolves the problem of 'extended consciousness' by including in Damasio's account a theory of language able to bridge the gulf between two individuals with 'extended consciousness' and hence bridge the gulf between biological and social functions of emotion, and again, the relation of Damasio's biological theory of 'embodied' emotion to motivation in the social phenomenon of speech. This problem can also be put in the form of a question. How does Vygotsky's unit of analysis, incorporating a Spinozistic theory of emotion explain speech motivation and resolve the problem of 'extended consciousness'?

4.4 Relevance of the concept of 'unit of analysis'

The research question put in section 4.3 above can be answered after establishing the relation of the proposed Neo-Jamesian solution (Chapter 3) to Vygotsky's unit of analysis. Vygotsky explores the concept of 'unit of analysis' in various parts of his work. He gives the reasons for analysis that produces 'units' rather than 'elements' in both Problem of the Environment and Thought and Language, two of his last writings, but not anywhere in Theory of Emotion, work he had halted the previous year (1933). It is possible that Vygotsky thought of the unit of analysis as contributing towards a resolution of the methodological problem raised by Theory of Emotion. I shall attempt to show that the unit of analysis explored in Problem of the Environment, and usually captured in the phrase 'emotional experience', does establish the relevance of Neo-Jamesianism to the Vygotskian thesis. In doing this I shall trace the different units Vygotsky discovered in his progress towards the concept of 'emotional experience'. Before I make that attempt I shall explore the origin and use of the concept of 'unit of analysis' and demonstrate as far as possible its place in my argument for the relevance of Neo-Jamesianism to the Vygotskian thesis.

A reason offered for Vygotsky's theory of the 'unit of analysis' is the quotation 'from unpublished notebooks' included by the editors of Mind in Society with the selections in that work. According to Vygotsky "Marx analyses a single living cell of capitalist society…..and within this cell he discovers the structure of the entire system…." and he continues, "Anyone who could discover what a "psychological cell" is….would thereby find the key to psychology as a whole" (Vygotsky, 1978, p 8). Hence, in the

words of Marx often quoted by Vygotsky, "…all science would be superfluous if the outward appearance and the essence of things directly coincided" (Marx, 1984, p 817), and in Vygotsky's own words, "If every object was phenotypically and genotypically equivalent….then everyday experience would fully suffice to replace scientific analysis" (Vygotsky, 1978, p 63). The 'cell', therefore, is not directly 'observable' phenomena and those who take the 'outward appearance' as evidence would be "…incapable of penetrating its phenomena, to recognise the inner essence and inner structure of this process behind its outer appearance" (Marx, 1984, p 168). The critical concept here is 'essence' and since, as Vygotsky says, "Units are products of analysis that correspond to specific aspects of the phenomena under investigation" (Vygotsky, 1986, p 211), 'cells' and 'units' are the 'essence' of phenomena determined by the investigation, whether psychological or economic, for example. Vygotsky, it seems, is committed to a type of essentialism, the product of which is psychological. Adopting the concept of 'unit of analysis' helps Vygotsky clarify, for reasons of methodology, the difference between the qualitative and the quantitative in research.

Vygotsky explores this distinction by comparing 'units' with 'elements of analysis'. Both units and elements are products of analysis so the question concerning what is meant by analysis is also partly explained in making the distinction. Elements are discrete component parts of phenomena. Whatever the phenomena, it is analysed in terms of its properties, parts or 'accidents'. Vygotsky illustrates this by explaining how a molecule of water can be analysed, or, to use his term 'decomposed', into its constituent atoms or parts. Inasmuch as mental phenomena can be conceived as constituted by its parts in this way it would also be analysable in terms of elements and these would be said to include 'memory', 'reason', 'imagination', 'intelligence',

‘emotion’, and so forth; in other words, all the faculties dismissed by Spinoza. Evidence for the component parts or elements can each be quantified as data and depending on its theoretical pertinence corroborate or falsify the theory offered to explain the data. Intelligence, for example, can be explained in terms of the data obtained from the application of the same I.Q. test to different sample populations or from the application of different tests corrected for cultural bias, to the same sample. In each case the data follows the administration of the I.Q. test, or the experiment, and are used as evidence for the theoretical explanation of the occurrence of ‘g’ intelligence in isolation from memory, emotion, motivation and imagination and other mental ‘faculties’. Observing that data for ‘elements’ indicates the result of the application of the test, Vygotsky’s analysis into ‘units’ meant observing, not the results ‘following’ the test but the test in its process of administration, that is, following or observing the test as the subject solves the problems set. Where analysis produces ‘elements’, the test is a ‘tool for result’ and where analysis produces ‘units’ (since ‘units are products of analysis’) the test is ‘tool-and-result’. The tool for result “methodology with which to tackle a world filled with problems is an instrumental one” (Holzman, 2009, p 10), one in which “psychology became about human beings in the ways that zoology is about animal life” and “thus dismissed that which is most fascinating and significant about being human – our subjectivity” (Holzman, 2009, p 12). For Holzman “behaviour is the perfect unit of analysis for a culture dominated by alienation” (Holzman, 2009, p 14). Following Vygotsky’s distinction what Holzman must mean here is ‘element of analysis’, since if behaviour is the unit, it would be the ‘product of analysis’ and, unless mental development is exactly equivalent to observable behaviour, this is methodologically impossible in psychology as understood by Vygotsky. Hence Vygotsky’s ‘unit of analysis’ is consistent with essentialism and not instrumentalism in science. It is consistent with the claim of Daniel Little that “Marx’s essentialism amounts to the

view that the aim of social science is to show how the observable characteristics of the system are shaped by its inner physiology." (Little, 1986, p 93).

In his examination of 'the scientific Marx', Little argues that in seeking an explanation of the "inner physiology" Marx was "rejecting a very narrow empiricism" (Little, 1986, p 98) and "insisting on" a "theory of science" that would be "unwelcome to social scientists who imagine the role of their science to be systematic description of observable phenomena" (p 98). In this Little argues that Marx's reservations concerning "narrow inductivism" were ahead of his time. Little argues that "Essentialism is highly consonant with the dominant contemporary view of modern science: the conviction that scientific explanation requires more than simple enumeration of factual circumstances" (Little, 1986, p 99). Illustrating this kind of argument Harré says that Mendel's laws "were statistical and 'external' in character" and hence did not "satisfy the demand for explanation". This demand was met when the "system of genes and replicating molecular helices of atoms" was "finally uncovered". Again, "we know the Law of Mutual Gravitation" but "have very little idea as to the mechanism of gravitational attraction" (Harré, 1972, p 119). One might say that if "elements of essentialism are fairly innocuous portions of a theory of science" (Little, 1986, p 99), then on the other hand, "In the absence of complete knowledge of a phenomenon, scientists will settle for the statistics of the conditions of its occurrence…" (Harré, 1972, p 118).

Even if it is true that "Vygotsky never used any quantitative method of data analysis" (Toomela, 2014, p 108) his essentialism in psychology is methodological. Vygotsky wants to avoid the "transpositions of the biogenetic principle, the experiment, the

mathematical method from the natural sciences" because their use "created the appearance of science in psychology" rather than help psychology develop in its own way. After all, the quantitative data, and its results, that helped his collaborator Zhozephine Shif demonstrate empirically the difference between spontaneous and scientific concepts, is discussed at length in the first part of Chapter 6 of Thought and Language (Vygotsky, 1986, p 146-162).

Turning to Spinoza the notion of essence becomes more clear. He distinguishes between 'vague experience' or 'perception' which is contingent and chaotic and "Perception….wherein the essence of one thing is concluded from the essence of another but not adequately: this happens when we infer a cause from some effect" (Corr. Und. Para. 19. III). That is, we 'infer' by habit or association because having inadequate ideas we are unable to understand the union of the mind to the body and hence the relation of the mind to the modifications of the body as a consequence of our adaptations to nature (Eth. II. 25) and relations with others. It is only when inadequate ideas no longer intrude upon our perceptions and are organised by adequate ideas (Eth. II. 41 and V. 26) that we can have knowledge of ourselves and hence psychology, and by the same method, the rest of nature, that is "wherein a thing is perceived through its essence alone or through a knowledge of its proximate cause" (Corr. Un. 19. IV), that is, a cause which is not 'inferred'. This 'correction of the understanding' is obtained because "Those things which are common to all, and which are equally in a part and in the whole, can only be conceived adequately" (Eth. II. 38). Since "That which is common to all (Lemma 2) and that which is equally in a part and in the whole, does not constitute the essence of any particular thing" (Eth. II. 37) is a 'common notion' (Eth. II. 40. Sch. 2) or 'entity of reason' shared by individuals who are said to be 'rational' because they 'agree in nature' (Eth. IV. 35),

essence ‘can only be conceived adequately’. Hence, for Spinoza, the result of analysis of ‘that which is equally in a part and in the whole’, an essence, is also a ‘common notion’.

Given the essence, the unit, analysis is determined by its subject matter and that it must show that the nature of the whole is identical with its parts. Next, “the direction we must move…relies on the analysis of the complex whole into its units” (Vygotsky, 2004, p 41). Our hypothesis or idea of the complex whole indicates how the analysis must proceed and this will be “through its essence alone or through its proximate cause” (Corr. Und. 92). Spinoza illustrates this with the example of building a house. Suppose someone “Knows that the design of the author of that work is to build a house, he will call that house…perfect as soon as he sees it brought to the finish which its author determined to give it” (Eth. IV. Pref.). But we do not have to ask for the origin of the concept of the house or “stand in need of another method to investigate the method of investigating” since, to take an example “to work iron a hammer is needed and in order to have a hammer it must be made…and in this manner any one might vainly endeavour to prove that men have no power of working iron” (Corr. Und. 30). Again “At the end of every labour-process we get a result that already existed in the imagination of the labourer at its commencement” (Marx, 1977, p 173). A result is obtained from unit analysis when the product and the process of its development are explained under analysis. In Marx’s words the analysis “begins post festum with the results of the process of development ready to hand” (Marx, 1977, p 80). Returning to Spinoza’s ‘common notions’ or ‘entities of reason’, since these exist in complete or ‘perfect’ form and do not need to be created, their discovery is like the building of the house or the development of a concept. The developed concept already exists at the beginning of the process of discovery and it

becomes clearer to the process of analysis the more analysis discovers the explanatory power of the concept or the potential of the concept to explain its own conditions, its necessity, as in the case of common notions. This tendency of concept development Spinoza calls 'perfection' and is otherwise called 'prolepsis'. Vygotsky calls it the 'final form'. Unlike element analysis there is nothing like an inductive process of generalisation in unit analysis, "For the understanding cannot descend from universal axioms to individual things since axioms are extended to infinity…" (Corr. Und. 93). That is, generalisations do not tell us anything about particular things, and universal notions, unlike common notions, are transcendental terms, like 'being', 'exists', which tell us nothing at all. As Marx continues, analysis "leads from abstract definitions by way of reasoning to the reproduction of the concrete situation in the concept" and hence "the method of advancing from the abstract to the concrete" is the method of abstraction or unit analysis and it is "simply the way in which thinking assimilates the concrete and reproduces it as a concrete mental category" (Marx, 1977, p 206-207). Spinoza held that these were adequate ideas which explained the relations between other lower order adequate ideas, and even inadequate ideas and their occurrence, in a system of ideas under the 'attribute of thought', itself equivalent to the system of nature under the 'attribute of extension'. Hence, when Vygotsky asks "What then is the unit that possesses the characteristics inherent to the integral phenomenon of verbal thinking and that cannot be further decomposed?" (Vygotsky, 2004, p 37), he is not "breaking it up into its component elements, thought and word, neither of which, taken separately, possess the properties of the whole" because "this method is not true analysis" (Vygotsky, 1986, p 211). On the contrary, "In our view such a unit can be found in the inner aspect of the word, in its meaning" (Vygotsky, 2004, p 37).

This represented a decisive stage in the development of Vygotsky's theory of method and its results in psychology. However as he advanced in his analysis of the problem of mental development he came to view the unit he had discovered as needing further exploration. In particular, he noticed that "By isolating thinking from affect at the outset, we effectively cut ourselves off from any potential for a causal explanation of thinking" (Vygotsky, 2004, p 41). Although in 1931 he started an analysis which became the monograph on the Theory of Emotion, he "never advanced to the positive part of the treatise…and in 1933 the work on the book came to a halt" (Zavershneva, 2014, p 86). In Problem of the Environment (1934) Vygotsky continued to address the problem with "emotional experience" as a new unit of analysis but according to Ekaterina Zavershneva "this line of theorising remained at the level of mere speculation" (Zavershneva, 2014, p 78) and since "it was the overemphasis on the intellect which prevented him from fulfilling the task" Vygotsky "spent the last two years of his life trying to overcome the intellectual bias" (Zavershneva, 2014, p 86).

Having shown that Vygotsky's psychology could be described, as I have argued Little describes Marxism, as essentialist, it does not follow that Vygotsky's psychology is Marxist. Mohamed Elhammoumi (Elhammoumi, 2002) and Danling Fu (Danling Fu, 1997) have each in their own way appealed to the same remarks of Vygotsky quoted by the editors of Mind in Society, referred to above, as evidence that Vygotsky's psychology is Marxist and a variant of dialectical materialism and historical materialism. Since it is part of my thesis that the psychology of Vygotsky is consistent with the results of Neo-Jamesianism I shall have to explain the consequences of misunderstanding Vygotsky's concept of unit of analysis. I have so far shown that the unit is the product of analysis and that the unit depends, therefore,

on what it is that is the object of analysis and whether this analysis is biological, psychological or sociological. Apart from the superficial results of element analysis there is a problem of the proper object of unit analysis. Just as Vygotsky has argued that element analysis is not suitable for the proper understanding of mental phenomena unless one is content with the superficial results of behaviourism, so in the same way Vygotsky has argued that Marx thought the analysis of the cell was the proper analysis of economic, social and cultural phenomena for the same reasons. Elhammoumi misunderstands the difference between unit and element analysis and the different justifications offered for their relevance and use.

Elhammoumi has argued at length that the "appropriate unit of analysis of human mental phenomena" is the "social relations of production" (Elhammoumi, 2002, p 89-98) and deduces from this claim that Vygotsky's psychology is Marxist and that "Vygotsky's theory was an explicit attempt to develop a Marxist psychology" incorporating the "concrete application of dialectical materialism" (Elhammoumi, 2002, p 92). This is not to say dialectical materialism has no relevance for psychology but when Elhammoumi quotes Vygotsky's remark, "The theory of the psychological materialism or dialectics of psychology is what I called general psychology" (Elhammoumi, 2002, p 90) he does this without reference to Vygotsky's expanded remark that "the direct application of the theory of dialectical materialism to the problems of natural science and in particular to the group of biological sciences or psychology is impossible" (Vygotsky, 2004, p 330). Moreover Kozulin, remarking on Vygotsky's relation to Marxism, says "Vygotsky desperately sought…to make psychology scientific…without degenerating into 'Marxist psychology'." (Kozulin, 1986, p xxiii). It is necessary to disentangle the unit of analysis from 'Marxist psychology' because the unit of analysis was the means by which Vygotsky

eventually arrived at “perezhivanie” or emotional experience as his final unit of analysis.

I shall argue that the concept of ‘emotional experience’ understood by this means is consistent with the results of the Neo-Jamesian solution to Vygotsky’s objections to Jamesianism. That is, there is a coherence to Vygotsky’s arguments which ensures the coherence of the ‘product’ of the unit of analysis with responses to his observations concerning the Jamesian theory of emotion. James appealed to Darwin for the authority of his psychology and hence was unable to explain what Vygotsky calls ‘higher mental functions’ in any but biological terms. Vygotsky on the other hand, not satisfied with the Jamesian conclusion wants to explain higher mental functions as a consequence of the relations of biological with cultural phenomena, and the means of this explanation is the unit of analysis. Elhammoumi has confused the product of unit analysis in psychology with the product of ‘the cell’ or unit analysis in economics, sociology or history. Unit analysis applied to economic, sociological or historical phenomena will obtain a ‘product’ different from unit analysis in psychological phenomena because “units are products of analysis that correspond to specific aspects of the phenomena under investigation” (Vygotsky, 1986, p 211). Since Vygotsky wants to be able to explain the relation between natural phenomena and cultural phenomena in a coherent, non-reductive, monistic and consistently naturalistic, causal explanation, it is necessary to avoid confusing unit products of different types of analysis.

Since Vygotsky holds that mental phenomena are evidence of the processes of internalisation of social and cultural phenomena, and psychology includes the

scientific explanation of this process, the purpose of a functional explanation of emotion is to help explain how the mental processes of internalisation, or interiorisation, of the social, occurs. That is to say, psychology as understood by Vygotsky, explains the mental dynamics of the interactions of biological with social phenomena. If the product of the unit of analysis was itself social, cultural, historical or economic phenomena, as Elhammoumi has argued, the analysis would be unable to explain the relation, which is a psychological product, between biological and social phenomena. If Vygotsky had conflated Marxism with psychology so as to create a Marxist psychology, or worse, to assimilate biology to Marxism, as illustrated by the Lysenko problem, he would have been unable to explain, in the unit of analysis, how the interactions of biological with social or cultural phenomena create mental phenomena. So when Elhammoumi also conflates Vygotsky's psychology with historical materialism he again confuses the relation between psychology and Marxism. So where Marx says "It is men, real, living men, who do all this, who…fight battles. It is not history which uses men as a means of achieving its own ends" (Marx, 1973, p 78), Elhammoumi claims "the forces of production bring human individuals into conflict with the relations of production" and consequently while "these conflicts are reflected in their thought processes" these "conflicts are the principle motive of history" (Elhammoumi, 2002, p 94). The consequence of this is that having confused the relation between psychology and historical materialism, Elhammoumi is unable to share Vygotsky's greater vision of the relation between the biological and the sociological. It is possible that when Vygotsky acknowledges "the historical character of verbal thought" (Vygotsky, 1986, p 94), his unit of analysis, he means no more by 'historical' than 'developmental' or what Little argues Marx meant when he describes his historical hypothesis as the "guiding principle of my studies" (Marx, 1977, p 20), namely a kind of research program (Little, 1986, p 66). But even if, writing of his unit of analysis Vygotsky says, "we must consider it subject to all the

premises of historical materialism" (Vygotsky, 1986, p 95) and one understands by the phrase 'historical materialism' Elhammoumi's and Marx's "locomotive of historical change" (Elhammoumi, 2002, p 94), and hence confuse historical materialism with psychology yet again, one removes altogether the relevance of biology in explaining the origins of motivation in mental phenomena. Life is a biological phenomenon. If social or historical phenomena were 'alive' in the sense in which life is biological, Vygotsky's efforts to find in his unit of analysis the interactions and interrelations of the living with social and cultural phenomena, and hence the "affective-volitional tendency which holds the answer to the last 'why' in the analysis of thinking" (Vygotsky, 1986, p 252), would be impossible. Vygotsky brilliantly incorporates social and cultural phenomena in his explanation of mental development without assimilating mental phenomena to the social and cultural. Simultaneously he incorporates biological phenomena into the same explanation without reducing mental phenomena to the biological.

4.5 Problem of social concept development

Once a version of the unit of analysis is complete and an account can be given of Vygotsky's 'affective-volitional' function with its relation to word use and concept development a further account can be offered for the development of social concepts. I expect to demonstrate that social concepts are 'social' precisely because their development is traced in the dialogue shared by speakers motivated to speak and develop their 'inner' lives. The possibility of such a dialogue presupposes and rests upon the mutual creation and agreement of higher order social concepts such as 'responsibility' and 'tolerance' which must enter into the very action of teaching-and-learning itself as conceived by Vygotsky. This final problem was put as the

principal problem as follows: What is the relation of emotion to the development of social concepts?

Result

The potential of a Neo-Jamesian solution raised research Question 1 (4.1). The answer to this question is a necessary step towards demonstrating the relevance of Damasio's Neo-Jamesianism to Vygotsky. A consideration of omissions by Damasio from the argument for the theory of emotion of Spinoza raised Question 2 (4.2). The special argument of Spinoza's complete theory augments Vygotsky's unit of analysis explained by the answer to Question 3 (4.3). This is the last stage in the solution to the principal problem posed by Question 4 (4.1 and 4.5).

CHAPTER 5: THEORY OF EMOTION AND DAMSIO'S NEO-JAMESIAN SOLUTION

Introductory survey

Having established the potential for a solution and how progress towards this solution is marked by progress through the research questions, in this chapter I explore the theory of emotion of Antonio Damasio as he explains it in his professional and popular academic writing as a biologist and neuroscientist. In Descartes' Error (1995) and The Feeling of What Happens (2000) Damasio argues for a coherent non-reductive biological explanation of the emotions as part of the wider environmental and evolutionary processes of life regulation, including society. Because of Spinoza's monism and proto-biological insights, Damasio argues, in Looking for Spinoza (2003), for the theoretical relevance of Spinoza's theory of emotion and expands this thesis in Self Comes to Mind (2010).

5.1. Spinoza's anticipation of neuroscience

In this section I seek only to confirm Vygotsky's judgement of the significance of Spinoza's philosophy for psychology and to indicate its contemporary context.

5.1.1 Vygotsky

For Spinoza, to have "knowledge of the union which the mind has with the whole of nature" (Spinoza, Corr. Und., 11.13), and hence to have knowledge of nature, it is necessary to understand the relation of the mind to the body. Spinoza thought the understanding of this relation was an integral part of any effort to understand nature as a whole. Nature is, as it were, refracted through the prism of the body, so that

empirical experience, conceived in Cartesian terms and unaided by knowledge of the body, will not yield knowledge of the whole of nature. Until we have "understood the structure of the body so accurately as to be able to explain all its functions" (Eth. 111. 2. Sch.) we shall not "understand the structure of the universe" (Eth. II. 30. Proof). For Spinoza the study of the 'structure of the body' is continuous with other enquiries into nature, hence his monism. For Spinoza there cannot be knowledge of nature, especially human nature, without understanding the relation of mind to body. But it is the idea of how empirical experience is mediated that is the central issue that Vygotsky shares with Spinoza, for he has seen in Spinoza the idea of a solution to the problem of motivation and in the functional relation of emotion to the development of concepts. We must understand another's thoughts, "but even that is not enough – we must also know its motivation" (Vygotsky, 1986, p 253). In my review (Ch. 2) of Vygotsky's monograph on that subject I explained what Vygotsky expected to find in Spinoza and that Vygotsky thought that there could be 'no more reliable and powerful weapon' than a testing of Spinoza's theory of emotion in 'the light of contemporary scientific knowledge'. Hence Vygotsky counts as the first psychologist to argue Spinoza's anticipation of contemporary neuroscience.

5.1.2 Ravven

Much more recently and concentrating on the social dimension central to Spinoza's conclusions, Heidi Ravven has argued that Spinoza has effectively laid the foundations for a 'natural history' of ethics by explaining their biological origins. Significant also, Ravven remarks, is the understanding Spinoza shows in "how cultural components were integrated into and extend the biological" (Ravven, 2003, p 71), and it is certain that Spinoza's social theory, as it is found across his writings, shows the importance he attaches to the way language is used to assert authority

and particular types of social relation which are relations of power. In greater detail Ravven considers how three “major discoveries” (Ravven, 2003, p 72) in modern neuroscience were anticipated by Spinoza. That the ‘mind is embodied’ is an obvious appeal to Neo-Jamesianism; that reasoning operates ‘from bodily experience’ is harder to demonstrate. But finally, that ‘thought is predominantly unconscious’ is referring to Spinoza’s demonstration that much behaviour of his “spiritual automaton” (Corr. Und. X. 85) is automatic and determined by “causes of which we are not conscious” (Eth. III. 2. Sch.). Although Spinoza has been described as the ‘father of psychoanalysis’ (Neu, 1977) the idea of ‘subconscious’ as it appears in Freud is not apparent in Spinoza so the idea of ‘unconscious thought’ is to be explained more readily in terms familiar in biology and neuroscience than psychoanalysis. In any case thought, feeling, value and imagination are examples of “twelve naturalistic claims of Spinoza for which there is now substantial evidence from the neurosciences or modern emotion theory”. (Ravven, 2003, p 74).

5.1.3 Harris, Sheth, Cohen

Independently of Damasio but relevant to Damasio’s interpretation of Spinoza in detail, as I shall demonstrate below, Sam Harris, Sameer Sheth and Mark Cohen employed functional magnetic resonance imaging (fMRI) to detect a correlation between activity in different parts of the prefrontal cortex (PFC) and different types of true, false or undecidable statements. The authors discovered that when the subjects reading the statements had to decide whether they believed or disbelieved them their belief in true statements correlated with faster reaction times for activity in the PFC than their disbelief in false statements. The authors argue that the data as a whole supports what they call ‘Spinoza’s Conjecture’, namely that it is easier to believe a statement as true than false or undecidable. In other words, the subjects,

like most people, tend to accept statements at face value. Spinoza draws a careful distinction between the representation of experience in language and the forming of 'adequate ideas' or concepts. Since truth is for Spinoza not a property of propositions but of the correspondence between an adequate idea and its object as part of the wider 'union which the mind has with the whole of nature' his philosophical approach to this problem makes him very guarded about what can be said. The results of these experiments not only seem to corroborate in neuroscience elements of Spinoza's theory of language and give a different insight into Spinoza than that of Damasio, but also, as I shall attempt to show, complement Damasio's findings in a significant way.

5.1.4 Damasio

Damasio has become the principal protagonist for the relevance of Spinoza to contemporary neuroscience and a Neo-Jamesian theory of the emotions. There are two reasons why Damasio has turned to Spinoza. Firstly Spinoza's philosophy is suggestive of a biological apparatus which incorporates the mental and emotional in their indissoluble unity. Related to this, secondly, Spinoza's philosophy is monistic and this appeals to Damasio's doubts about the ability of Cartesian dualism to accommodate a biological theory of the mental and emotional. The Cartesian philosophy assuredly divides the world into physical objects and the concepts for deliberating about those objects. It follows of course that concepts of language, number, space and time are presupposed in empirical explanation and cannot themselves become the objects of empirical explanation. This may yield a reassuring notion of science as "objective" but it renders the efforts of biologists to account for the biological roots of rationality and emotion problematic. The clinical evidence that Damasio employs showing that lesions to parts of the brain impair

particular types of mental functioning motivates his search through Spinoza much in the way Vygotsky was motivated in his own psychological researches. The criticisms levelled against Cartesian dualism by Vygotsky and Damasio have much in common and arrive at shared conclusions with respect to objections to the James-Lange and the Cannon theories of emotion.

5.2.1 Damasio is Neo-Jamesian

Inasmuch as Spinoza anticipates the neuroscience of Damasio he anticipates Neo-Jamesianism. The labels 'neuroscience' and 'Neo-Jamesian' are largely co-extensive though one might regard Neo-Jamesianism as a psychological research programme incorporating broader philosophical concerns of methodology and method, and the ethical and social considerations that follow from an interest in philosophy, such as Spinozism. However, what Damasio and others suggest may help further to locate the convergence of Spinoza, neuroscience and Neo-Jamesianism, but I will offer a broad account explaining why Damasio is Neo-Jamesian.

Damasio is Jamesian because he explains emotions from the body and feelings as consciousness of emotions, as did William James and the James-Lange theory but he is Neo-Jamesian because he explains how emotions are processed by the several different parts of the brain. Moreover, Damasio explains how feeling depends upon this processing of emotion, how this processing can lead to feelings which feed back to the body and are 'embodied', and how feelings can be experienced without relation to the body, from memory, that is, entirely from brain function. William James was unable to incorporate the role of the brain in any detail

because of the state of neurology at the beginning of the twentieth century so that he was led to account for 'feeling' as 'judgement' or 'appraisal'. But even by the 1930s when Vygotsky was writing, not much more than the brain-stem up to the thalamus was understood, let alone their role in the processing of emotion. This explains why Vygotsky, in several parts of his monograph on the emotions, concentrated on the thalamus in attempting to explain the neurological elements of emotional and feeling experience. In simply attempting this, Vygotsky was constructing the beginnings of Neo-Jamesianism.

But this is not all that is meant by Neo-Jamesianism, at least in Damasio. To attempt to explain emotions as sensations of the body, even if the brain is included in a Damasian 'body loop', gives only a partial understanding of their salience. Interaction with the physical environment will indeed cause sensations in the body which can include emotion but it is the interaction in the social environment which gives emotions and feelings the particular salience that matters. Damasio explains the origins of consciousness as arising from problems of adaptation to changes in the environment that are problematic or involve risk and which cannot be negotiated by brain-stem responses, reflexes or even simple awareness even while these engage primary or primitive emotions of pleasure or pain. A biological explanation will have to be relevant to the natural selection of groups or species and human social interaction is biological in this sense. That is, adaptation to changes in the environment, while they are executed individually, is 'social' in Damasio's sense, and hence social interaction is an essential element in adaptation to changes in the environment. To what extent learned adaptations are heritable or established upon heritable adaptations raises questions about brain plasticity and continued human evolution in a larger perspective. Damasio does not ignore this perspective but he

wants to concentrate on what these adaptations mean for this and that individual. The emotional lives of individuals matter to them. One might say that emotional salience is what makes anything matter. Both Damasio and Spinoza can take a wider view and they would like others to see how, taking a wider, informed view, it is possible to order one's life in a way which has adaptive emotional salience. The emotional life of individuals may be understood from a larger evolutionary perspective but Damasio is content with attempting to explain the origin and basis of what he calls 'social emotion' in the interaction of the body with the central nervous system, particularly the brain, and with other individuals and events, especially those events that occasion consciousness, such as problems, dangers and risks. The consciousness that arises in this area is not different from interactions with physical dangers, and social interaction mediates the solutions to these problems, but because this consciousness means attention to social interaction itself, it is an 'extended consciousness' and the feeling element of this consciousness, what makes the higher reaches of this consciousness, 'conscience' for Damasio, is 'marked' by particular types of emotional experience which have set in motion particular brain circuits and parts of the brain. These experiences and the feeling of them are also embodied. Hence it is in explaining the relation of the brain to the body and the salience of social interactions and their embodiment by individuals that Damasio's Neo-Jamesianism is understood.

Finally, mindful that Damasio has not published any claim to share a Neo-Jamesian perspective it may help to see how this appellation is used in connection with his work. "The mechanism I have outlined to enact emotion and produce a substrate for feelings are compatible with William James's original formulation…" (Damasio, 1999: 288) and hence "Damasio holds that the Jamesian portrayal of the temporal

sequence of events in emotion generation is largely correct" (Friedman, 2010, p 383). Because Damasio "adopts an explicitly Spinozist stance with regard to the relation of mind and body, individual and society" and is "the most social science friendly of the major neuroscientists" (Cromby, 2007, p 152) and "Recent advances in neuroscience (Damasio) and cognitive science open the way for rethinking mind/biology/social setting" (Daniels, 2001, p 47), "Damasio understands….through Spinoza's philosophy" and "it is for this reason that Damasio's model can be descried as Neo-Jamesian" (Wetherell, 2012, p 34-35). Finally, 'in the neo-Jamesian view of Damasio' (Phaf and Rotteveel, 2012, p 47), the neo-Jamesian Damasio (Moores, 2010, p 11), and, 'According to Damasio's Neo-Jamesian theory' (Helm, 2010, p 305).

5.2.2 Damasio is Spinozist

The natural environment

Damasio is Spinozist principally because he shares doubts that the effort to create a biological explanation of mind, and hence a biological basis for psychology, can be secured in the dualism or Cartesianism implicit in the positivist notion of scientific 'objectivity' (Damasio, 1995, p 245-52). In common sense and philosophy the Cartesian divide looks unbridgeable but Spinoza's double-aspect theory of substance monism seems to attempt the impossible in deducing 'thought' and 'extension' from one substance or nature as its 'attributes'. But 'monism' is entailed in 'explanation', for to give an explanation, according to Spinoza, is to show the relation of cause to effect and hence to explain the causal relations between parts of nature, conceived not as static but as dynamic and creative. There can only be one creative nature or substance and not two, as Descartes and common sense assert.

For Spinoza the difference between ‘nature thinking’ and ‘nature extended’ in time and space is a consequence of the way our unaided experience appears to divide into objects and events and mental ‘representations’ of them.

Insofar as we can give a causal explanation of the interactions between the parts of nature we can be said to understand nature. The parts of nature we are able to understand in this way arise from the dynamic interactions of its parts and as these parts move against one another the interface between them is that enduring (in Spinoza, conatus) part of nature which is the physical and biological world (in Spinoza, natura naturata). Individual things and their parts Spinoza calls ‘modes’. The physical and biological world is the passing phase of the motion-and-rest of nature Spinoza calls ‘the face of the whole universe’. Individual things, like galaxies, planets, trees and human bodies are further temporary modes of nature and whose relative permanence depends on the organisation of their structure to endure against the greater powers of nature. We know we are part of this (‘we feel and experience we are eternal’ (Eth. V. 23. Sch.)) because nature is reflected through the biological constitution of the body, as it emerges from and folds back into substance like waves on the ocean.

We shall understand the causes of our divided way of perceiving things when we organise our contingent experience (‘knowledge of the first kind’) and its random effects on the emotional state of the body in accordance with explanation (‘knowledge of the second kind’).

To achieve this we have to know how the body works, insists Spinoza, but “no one has thus far determined what the body can do merely by the laws of nature” that is, to explain non-conscious acts such as the example he gives of sleepwalking or the ‘sagacity’ of other animals (Eth. III. 2. Sch.). In almost identical language to William James, Spinoza writes, “thus an infant believes that of its own free will it desires milk, an angry child believes that it freely desires vengeance, a timid child that it is free to run away” (Eth. III. 2). In the ‘physical digression’ (Eth. III. 13) Spinoza describes the body as constituted by nested parts and variously ‘hard’, ‘soft’ and ‘liquid’, interacting with one another to create ‘traces’, ‘images’ and ‘dispositions’ (Eth. III. 18) of actions. This very general schema can be easily accommodated to biological knowledge of different types of body tissue such as bone, muscle, blood and lymph as well as internal organs and the parts of the nervous system, and Spinoza’s terminology is not dissimilar to Damasio’s, nor in sense. Although it is thought Spinoza attended public lectures in anatomy at Leiden, he could not have had any detailed knowledge, especially of the brain. Nonetheless “Spinoza may have intuited the general anatomical and functional arrangements that the body must assume for the mind to occur together with it, or more precisely, with and within it” (Damasio, 2003, p 210). This vision seems to have inspired Damasio’s passion for Spinoza and suggests why he sees in Spinoza so much potential for biology and neuroscience.

The social environment

This background provides Damasio with a monistic and materialist conception of mind and body and the reason for approaching biology as the source of an explanation for how the various biological processes occasion emotion and interact with the social environment to account for our deliberative actions. Executive functions of the neocortex such as thinking can be conceived, not as ‘additional’ to

our biology or even supervenient upon it but as processes of interaction with both the physical and social environments subsumed under one word, nature, and explained in causal terms.

Interaction with the social environment is therefore, according to Spinoza and Damasio, a part of our interaction with the natural environment. This is not to deny raw, immediate and spontaneous awareness of the physical environment experienced in pleasure, in sudden pain, in instant reactions to, say, a bird hitting the windscreen as we drive or when we run we find we can watch ourselves dodging obstacles without thinking about them. In these instances our actions are outside our control and under the control of the thalamus and the amygdala. But because the social environment is the domain of most of our conscious and non-conscious actions, our social interactions have a salience that our other interactions do not have. Individuals largely occupy a social symbolic world through which our understanding of the natural environment is itself refracted. So Damasio argues that Spinoza, "absent as a reference from the modern efforts to understand the biology of the mind" (Damasio, 2003, p 13), is a proper response to the Cartesian efforts in psychology and the social sciences that attempt to proceed with accounts of human flourishing without regard for the emotions. An understanding of individuals, especially children and students, where thought is conceived as unmediated by emotion and knowledge as disembodied is an abstract conception of individuals as processors of data. Hence Damasio's plan "to connect this least known Spinoza to some of the corresponding neurobiology of today" (Damasio, 2003, p 14) has considerable educational significance.

Finally, if one can understand language as a medium for this conception of knowledge as 'cerebral' and disembodied, one will understand Spinoza's strictures concerning language. The significance of this becomes evident in considering the relation of Damasio to Vygotsky and the relevance of Vygotsky's linguistic theory of concept development to Damasio's concept of social emotion.

5.3 Emotion and the social environment

In this section I shall begin to draw together the shared relevance of ideas about emotion in Spinoza, Vygotsky and Damasio. Each considers the individual in relation to the social environment and what the social environment comes to mean for the individual. I introduce Vygotsky at this stage to throw light on the direction my argument is taking.

5.3.1 Problem of the environment

When Vygotsky writes about social interaction in his paper The Problem of the Environment published at the end of his life, in the same year as Thought and Language and Theory of Emotion, he wants to draw a clear line of demarcation between unaided development and development that is promoted by a particular kind of learning engagement with the social environment. Vygotsky does not say that the natural and social environments are unrelated nor that a comprehensive account cannot explain natural and social phenomena in their unity. He does remark on the basic conditions of development but his principal purpose is to point to a method of isolating how the development of mental functions depends upon learning. He calls this a unit of analysis. It is a Vygotskian truism that learning does not follow

mental development, but on the contrary and contrary to widespread belief, that mental development follows learning. It might be put very simply by saying teaching causes mental development in exactly the same way as Spinoza's adequate ideas transform passive into active emotion. Like Spinoza again, the conditions for mental development are social. Mental development does not take place in the skull isolated from the environment. Mental development is a social phenomenon promoted by a particular type of social relation, namely, learning, and this is unlike historical or biological development. Because of his specialisms Vygotsky was aware that basic conditions effecting the "development of sensory and motor functions in children" (Vygotsky, 1994, p 347) have consequences for learning but Vygotsky took these to be reasons why it was necessary to find a unit of analysis of the conditions of learning.

At any one time the child's experience of the social environment is that it is for him a 'given'. Of course, setting aside cultural and political change, the social environment has a particular stability even for adults. But this is not the social environment experienced by a child. The adult environment in all its detail will be present as a stable or abstract or 'final form' but this is experienced by children in stages of mental development from the early years mixed with play, toys and games. This is clearer in Spinoza's account of 'perfection'. Emotional experience undergoes what Spinoza calls 'transitions'. Transitions of emotion are 'increases' or 'decreases' in activity, conceived either mentally as 'happiness' or 'sadness' or as embodied as 'pleasure' or 'pain'. It is the 'increased' activity which is pleasure. Pleasure is a 'perfection' Spinoza says, or an idea, or better still a word for an idea of a thing for which we aim (Eth. III. 11. Sch.). In the same way the child's mental development obtained by interaction with the social environment at home or at school will

determine how he experiences the current social environment. That emotional experience is Spinoza's 'transition' so as the child changes mentally and emotionally, the meaning of the environment, most significantly, the problems it poses for him, changes for him too. Problems that he cannot solve and where he is abandoned to solve them alone will be a source of unhappiness for him but problems accompanied by help in their solution will foster mental development and emotional well-being and happiness.

The issue is not that adults and teachers are vaguely helpful to the baby or child in a way that keeps the baby or child passively happy and bubbling with laughter but that a strategy of teaching is employed which, by engaging the current emotional experience of the child, causes him to notice his own mental advance and hence to be able to use language, firstly, as a tool to develop the concept, the 'final form' or 'perfection' he has mastered in his interactions with another, also called the prolepsis of the concept, and secondly, as he internalises his speech, continues to elaborate the deductive properties the concept shares with other concepts he has already formed or is now preparing to form. Spinoza calls these the 'intrinsic marks' of an idea and they concatenate (are interdeducible) with other adequate ideas. The child's emotional experience further changes in the process of this development. That is to say his emotional experience is the medium of his mental development and maturation. Vygotsky writes: "It ought to always be capable of finding the particular prism through which the influence of the environment on the child is refracted" (Vygotsky, 1994, p 341). The 'prism' is the relation of emotion to mental functioning. The child's emotional experience does change as his relation with the social environment, the parents and teachers, cause it to change. Indeed "an emotional experience is always related to something which is found outside the

person" (Vygotsky, 1994, p 342) that is, the problem and the 'final form' of its solution, or 'perfection' which the child is being offered to solve. Hence in Problem of Environment Vygotsky is clarifying what would count as the learning conditions that would be the subject of his unit of analysis introduced at the end of Thought and Language. There he says that it is "not sufficient" to understand the process of thought or concept development obtained in the medium of speech, "we must also know its motivation" (Vygotsky, 1986, p 253). How exactly, developing emotional experience "is always related" to the acquisition of the 'final form' or prolepsis of the concept has been explained by Spinoza in theoretical form and it is in Damasio's interpretation that it may be possible to harness Spinoza's theory of the transformation of passive into active emotions to Vygotsky's proposed unit of analysis, the 'prism', to show how in emotional change is to be found the motivation in the development of the concept.

Since, in Theory of Emotion, Vygotsky works towards finding a solution in Spinoza, in the outlines of a theory which appears Neo-Jamesian, and anticipating Damasio's Spinozistic neuroscience, an element of the unit of analysis can be found in the basic biology of Spinoza's account of the primary emotions and their elaborations as they configure in the social environment, that is, in social relations. But it will help if an account of Vygotsky's concept of 'emotional experience' is explained as it would be understood first by Spinoza.

5.3.2 Spinoza's theory of primary emotions

According to Spinoza all parts of nature are in a state of motion-and-rest, including the human body and its constituent parts. The motion of parts is co-ordinated only in

their resistance (in Spinoza, ‘conatus’) to the greater power of nature and the actions of others to dissolve them. Hence human beings resist the greater powers of nature (Eth. IV. 2) either individually or as members of a society. But both the physical and the social environments are parts of nature in its monistic unity. Interaction with the physical or biological environment causes impacts which reflect internally along the ‘hard’, ‘soft’ or ‘liquid’ parts of the body as sensations (Eth. II. 17, Dem). These can be called ‘ideas’, “For an idea is in itself nothing else than a certain sensation” (Corr. Und. 78) and ‘state of the body’ (Eth. III. Dem.). To have a sensation, or an idea, is to have a mind (Eth. II. 11), though a rudimentary one, since “nothing can happen in that body which is not perceived by the mind” (Eth. II. 12), and the body, thus modified by its interaction (‘knowledge of the first kind’ (as above)), “is the object of the mind” (Eth. II. 13). If we have regard for the human body as one organism, then if the interaction increases the activity of the mind and the body it is ‘pleasure’, and ‘pain’ if it hinders it. This broad distinction allows Spinoza to introduce details into social interaction later. The activity of the body is its ‘appetite’ to persevere or strive (Eth. III. 6) and consciousness of this Spinoza calls ‘desire’. Pleasure, pain and desire Spinoza calls primary or passive emotions (Eth. III. 11. Sch.). Though he uses words usually translated as ‘happiness’ or ‘joy’ and ‘sadness’ or ‘sorrow’, for ‘pleasure’ and ‘pain’ considered as mental activity, this permits him the theoretical means for explaining any passive emotion that he chooses. The increase, ‘pleasure’, or decrease, ‘pain’, in activity, Spinoza calls a ‘transition’ from a greater or lesser perfection (Eth. III. Aff. 2, 3). By ‘perfection’ Spinoza understands that to which the transition is made, since “If a man were born with a perfection to which he passes, he would possess it without the emotion of joy”. Hence we form ideas of those things for which we aim and call them perfect. An emotion therefore is also an idea (Eth. IV. 14). Usually we are unable to explain our emotions either to our self or anyone else and hence our emotions are as passive as our mind is inactive. If we

can explain them causally then we have an ‘adequate’ idea of an emotion. Since an emotion is itself an idea, having an idea of an idea constitutes reflective knowledge (‘knowledge of the second kind’ (above)) and this is the beginning of a transformation of passive emotion into active motivation, or Vygotsky’s “affective-volitional tendency” (Vygotsky, 1986, p 252), as I shall try to show.

If we passively endure emotions of sorrow, sadness or depression, and hence mental inactivity, it is because we do not know how to form adequate ideas and attempt to explain these emotions. Spinoza therefore describes the theoretical apparatus of all possible passive emotions (Eth. III. 8 to 21), how we attempt to live socially motivated by them (Eth. III. 22 to 42) and what their social consequences are, that is, what kinds of social relations follow from passive emotions and our inadequate ideas of them (Eth. IV. 40 to 58). So, for example we are passively motivated by rewards and punishment and hence praise and blame and the institutional structure of power relations which these include. Hence, since the effects of rewards and punishments are passive emotions our ideas of them are inadequate ideas. Social institutions, such as schools, may organise social conduct and achievement upon schedules of reward, punishment, praise and blame, but unless social institutions follow out Spinoza’s argument they will not know when systems of rewards and punishment become unhelpful and demotivating. Even at the top of the school, those students who are struggling to gain ownership of a difficult idea need reassurance expressed in rewarding remarks such as “that’s nearly it…” or “yes, go on a bit…” Of course once mastery over the concept is obtained the student will find words to show its interdeducibility with other concepts, perhaps unrelated to the study at hand, but significant for the student’s own personal autonomy. At this stage of concept development the student will have enough

confidence to challenge any defects in understanding. So Spinoza continues with an account of the difference between passive and active emotions and an explanation of how passive emotions are transformed into active emotions by enlisting adequate ideas (Eth. IV. 59, 61, 62 and V 5 to 13). Since anything which "increases, diminishes, helps or hinders our body's power of action the idea of that thing increases, diminishes, helps or hinders our mind's power of thought" (Eth. III. 11), if we form social relations that constitute a mode (Eth. IV. 18. Sch.) where individuals are not divided "by emotions contrary to our nature" (Eth. V. 10) but "…live in conformity with the guidance of reason…" (Eth. IV. 35) then "the good which everyone who follows after virtue seeks for himself he will desire for other men…" (Eth. IV. 37) and this will amount to a psychological advance from extrinsic or reward motivation to intrinsic motivation and autonomy. Spinoza details the psychological apparatus or structure for this advance as well as the method of its achievement and this serves as the common ground on which the theories of Vygotsky and Damasio meet.

5.4 Damasio's theory of emotion

5.4.1 Damasio's references to Spinoza

In this section I shall give an account explaining how Damasio's interpretation of Spinoza gives a theory of emotion which is Neo-Jamesian and sufficient for most of the purposes of Vygotsky. Had a Neo-Jamesian theory been known to Vygotsky he likely would have integrated it into his planned theory of motivation, but the Jamesian theory Vygotsky explored, he dismissed for various reasons, including its intentionalism and epiphenomenalism. My survey of Damasio's theory of emotion is intended therefore to demonstrate that Damasio's interpretation of Spinoza,

important to Damasio for his own project, will do some or even most of the work of Vygotsky's plans for a Spinozistic theory of emotion. Vygotsky's Spinoza has to provide Vygotsky the theory of the 'emotional experience' as the 'prism' described in Problem of Environment and 'affective-volitional tendency' or 'motivation' described at the end of Thought and Language, and hence the function of these is the "interaction with the final form" (Vygotsky, 1994, p 349). Damasio's interpretation of Spinoza will give Vygotsky some, or most of what he wants, either because Damasio has found in his interpretation of Spinoza a result sufficient for his own purposes but which permit expanding or extending, or because omissions in Damasio's interpretation of Spinoza invite observations and developments from the standpoint or perspective of Vygotsky. In either case, extending Damasio's interpretation or completing omissions in his interpretations, taken in the direction of Vygotsky, will provide Vygotsky his 'prism' or unit of analysis.

I will begin, not with Spinoza and show how he anticipates the Neo-Jamesianism or neuroscience of Damasio, but with the ideas, theories or arguments Damasio has found in Spinoza useful to frame his own approach to neuroscience. It is the biology of the emotions Damasio is concerned to explain and why Spinoza is useful to him. Damasio has already noticed Spinoza's schema for biological explanation and the deficiencies in Spinoza's own biological knowledge but "be that as it may, we can now fill in the brain details and venture to say for him what he obviously could not" (Damasio, 2003, p 213).

Damasio refers to Eth. III. 6 to 8 to show that the Spinozan concept of 'conatus' or 'perseverance' is the product of 'dispositions of brain circuitry' (Damasio, 2003, p 36)

and the environment. Damasio makes one or two incidental references to Spinoza's political writings. He cites Ethics V 10, 32 and 36, where he connects the ends of Spinoza's proposals (but not the means) with the most sublime emotion and the optimistic conclusion to the Ethics (Eth. V 42). Apart from these incidental references Eth. III. 6 to 8 are fundamental to Damasio's theory. But the more elaborate conceptual structures that concern Damasio he finds in Eth. II. 13, 15, 19, 22, 23 and 26 (Damasio, 2003, pp 210-214). The Propositions omitted, especially 24 and 25 and 27 to 29, are also part of Spinoza's theory of emotion and hold the answer to the theory of emotion relevant to Vygotsky and to his 'prism' and unit of analysis. I shall return to those Propositions after developing themes which become relevant to a problem of the interpretation of Spinoza.

Damasio refers to a component element of Spinoza's theory of mind to elaborate a biological theory of 'self' at Eth. II. 22. In Eth. II. 21 and 22 Spinoza introduces the concept of an 'idea of an idea' as the formal relation that follows understanding the relation of the mind to the body. In giving a brief account of the primary emotions in Spinoza I showed that an emotion is an idea and that Spinoza was able to say that 'joy' or pleasure for example was an idea of the cheerfulness or stimulation which is the sensation of the whole body and mind, conceived as one entity, but understood only in respect to the mind. Hence 'joy' or 'pleasure' is connected to the body in the same way as the mind is connected to the body. Hence "the idea of the mind is united to the mind in the same way as the mind itself is united to the body" (Eth. II. 21). The "idea of the mind, that is to say, the idea of the idea" (Eth. II. 21. Sch.) is simply a formal way of putting this relation. For Damasio "the notion of "idea of ideas" ....opens a way for creating an idea of self" (Damasio, 2003, p 215). The first object constituting the mind is its body (Eth. II. 13) but the mind cannot know this.

That is the mind cannot have any knowledge either of itself (Eth. II. 23) or of anything else (Eth. II. 26), unless an event or 'object', experienced as a 'sensation', causes a change or 'transition' in the state of the body, that is, an emotional experience (Eth. II. 19). The cause of the changing sensation is an event or 'object' or Damasio's 'emotionally competent stimulus'. This stimulus is not sufficient for knowledge according to Spinoza. The mind, to know itself, must have an 'idea' of the changes or modifications to the body, and if it does, by the same 'idea' it simultaneously perceives other bodies or objects external to it. This is an element of Spinoza's monism, and Damasio's adoption of it avoids any charge laid against Damasio's theory as it develops, of epiphenomenalism. Moreover, since, for Spinoza, and for Damasio (2003, p 210), 'the human body is composed of a number of individuals of diverse nature, each of which is composite to a high degree' (Eth. II. 13. Lemma 7. Post. 1), the sensation of the stimulus must be traceable through the 'composite' parts of the body and from the interaction of these parts together with their joint interaction with the stimulus or environment emerges what Damasio calls the 'protoself', the non-conscious first layer of the 'neural self' (Damasio, 2000, p 153), the result of Damasio's biological interpretation of Spinoza's theory of mind.

5.4.2 Origin of primary emotions

Because the 'protoself' is so primitive it emerges from neural circuits which monitor or copy the resting state of the body (brain stem and somatosensory cortex), maintain homeostasis (hypothalamus) and respond to sensations caused externally or internally (insular). Although Damasio says "I cannot guarantee that these structures operate as I describe" (Damasio, 1995, p 231), together these different parts create a 'neural pattern' or a body map. Body maps can also be called 'images' but they are a layer of neural activity distributed across different parts of the

brain, the pervasive sensation that results in the background to our feeling of continuity from moment to moment. That continuity is not given in the things that occupy our thought. Even if we sustain concentration and feel our 'mental effort', yet that effort is felt against a more primitive emotional background constituted by sensations. These sensations are mediated by primitive structures of the brain and are simple enough to call 'pleasure' or 'pain'. The mediating structures determine the emotion, that is, the reactions of the body and the feeling we experience when these sensations contribute to core consciousness and extended consciousness. Pleasure, as Spinoza would explain it, is a motion of the body which becomes adaptive and is therefore repeated and pain is a motion which is not repeated. The reasons why actions or motions are repeated is evolutionary and explained in terms of layers of biological adaptation including evolutionary differentiations in the brain which have survival value for the body. In the case of pleasure an action is repeated because the electrochemical neurotransmitter dopamine, released from the ventral tegmental area and nucleus accumbens, increases activity in 'earlier' and 'later' parts of the brain, especially in the 'later' prefrontal cortex active in extended consciousness. Dopamine reduces the sensations of pain and hence the activity of the amygdala when it is spurred into action by the thalamus or other parts of the nervous system. Pain sensation begins when the active amygdala starts the relay of circuits which leads to the release of adrenalin and the emergency response which readies the body for urgent action and constitutes our sensations of stress or feelings of anger or fear. Hence it is against this background that a further level of higher order brain circuitry gives rise to what Damasio calls 'core self'. This responds to the second order relation of brain circuits in interaction with the environment. It is continuous from moment to moment and is how Damasio explains spontaneous moments of consciousness and particular emotional and feeling experiences. That is, there is a succession of these 'core' experiences which

Damasio calls a nonverbal narrative (Damasio, 2000, p 169 and 184-188). Unless we include memory of them, they pass outside our control. This account would explain the emotional lives of animals, constantly trapped in the moment of the emotion, and passing from one to the next as a bundle of reflexes.

As is the case of the protoself, where neural maps are distributed across brain circuits, so core consciousness is an even higher tiered neural map created from the protoself, and its particular neural map interacting with other higher-order cortical structures significant for adaptation in this more complex environment. Where the protoself is simply responding as if stimuli were momentary, the core self, consisting of a succession of protoselves, must be able to form a basic spatio-temporal map of its environment. Brought together the pleasant and painful experiences caused by events in the environment are mediated by the somatosensory cortex, reaction to changes in it in special senses, like touch, are mediated by the thalamus, and finally the cingulate cortex, which seems to respond to the other brain circuits, causes changes throughout the body through the rest of the nervous system.

Though we are not conscious of the protoself yet we become conscious in the core self by virtue of the way it represents the environment. So, where in Spinoza, cheerfulness, an ‘appetite’, is the continuous emotional experience or activity of the mind and the body in its indissoluble unity (Eth. III. 11) and ‘joy’ or ‘pleasure’ is this ‘appetite’ conceived under the attribute of thought alone, the cause of my protoself cheerfulness or joy is, by Eth. III.12, the person I love. My love is my core consciousness, my affirmation and existence. The continuity of this emotional experience is, again, the nonverbal narrative, and it is important for Damasio’s

arrangements because it can be used to explain the ‘verbal narrative’ in a manner consistent with his observations concerning language. Damasio wants to argue that consciousness must be explicable as nonverbal even if “the second order nonverbal narrative of consciousness can be converted into language” (Damasio, 2000, p 185). Hence the ‘verbal narrative’ must be a further feature of ‘extended consciousness’ and not core consciousness nor the autobiographical self which emerges from the relation of core consciousness to memory. So the nonverbal narrative appears to be an unspoken level of consciousness or feeling lying behind or just below our attention and speech like the unspoken feeling experienced as we are moved along by the melodious phrases of a symphony.

Higher order neural circuits co-ordinate these momentary and fleeting emotional experiences of the core self in a continuous ‘autobiographical self’ and its nonverbal narrative of feeling set against the autobiographical memory created by further neural circuits. This combined system enables responses to the environment drawing on memory and imagination in ‘extended consciousness’. Extended consciousness therefore places the experiences of core consciousness “in a broader canvas and over a longer period of time” (Damasio, 2000, p 196) further extended, Damasio inserts, by “that critical gift called language” (p 198). It arises therefore from autobiographical memory of “many instances of a special class of objects” relating to those personal experiences which constitute the autobiographical self, in combination with action in the environment which stimulates memory. None of my actions are intentional. Action and adaptation triggers consciousness of any part of the autobiographical memory relevant to changes in the environment. The memories of the autobiographical self are dispositions entrained across the nervous system depending on the nature of the experience giving rise to them and brought

together in an ‘image’, representation or ‘neural pattern’. For example, my memory of a hammer consists of multiple dispositions in different sensory cortices depending on its weight, colour, how I moved my arm to lift it and what it felt like when I hit my finger. I may not be conscious of some of my sensations of the object. Damasio would say that my memory of the word ‘hammer’ is also a disposition and would be associated with the complex sensory experiences I have of the object in the higher order neural maps that co-ordinate these dispositions together in the total image or representation. Hence every kind of experience I have becomes dispositional whether I am conscious of it or not. If the experience encourages my consciousness, that combined experience becomes dispositional. Neural structures engaged in memory involve most parts of the brain, especially the hippocampus, simply because the sensory origins of dispositions are co-ordinated in a myriad of ways.

5.4.3 Origin of secondary or social emotions

Dispositions to act in this or that way are the product of the interaction of the body with the environment and the brain with the body in what Damasio calls a ‘body loop’. Because of the internally differentiated nature and structure of the brain, experience of the environment by the body, as it is mediated by the brain and its interdependent structures, undergoes change and this change is the change in electrochemical interaction of the different structures of the brain, called dispositions. This does not mean that the environment is something other than the complex representations of it through our complex biology. To begin with the brain is able to represent the environment sufficient for our adaptations without consciousness as understood by Damasio, and most of the activity of the body from moment to moment falls below consciousness, even those complex learned actions that

become habituated as in playing a sport or driving a car. Constant processing of the environmental stimuli can be 'tuned down' when the individual is occupied with complex interactions that engage parts of the brain in the neocortex not engaged in basic processing. Because the brain cannot tell the difference between what it remembers and reality as experienced the memory encourages other parts of the brain to process sensory experience with the experience of the autobiographical self 'as if' the body was still engaged in the entire neurophysiological process. Thus in Spinoza "the mind is able to contemplate external things by which the human body was once affected as if they were present, although they are not present and do not exist" (Eth. II. 17. Cor.). The experiences of the body as represented in dispositions can therefore engage with complex interactions with the environment called 'conscious' that involves processing or mediation by parts of the neocortex 'as if' the 'body loop' was active as normal. The representation of the emotional state of the body in somatosensory cortices and other parts of the brain when I am engaged in a complex conscious interaction with the environment is mediated by the prefrontal cortex. It would be reasonable to deduce that the phenomenon of consciousness is at least partly a function of the parts of the prefrontal cortex. The point is that in considering interaction with the social environment, firstly, we are conscious as a consequence of the protoself and core self, and secondly, dispositions gathered together in representations, including the emotions dispositionally entrained in previous engagement with the social environment, 'bias' consciousness. Moreover the 'as if body loop' postulated by Damasio means that emotions are felt more quickly than those feelings that follow from the usual processing of emotions described by William James. So where, in a Jamesian account, feelings of anxiety would be traced from a sudden environmental stimulus to the thalamus, stimulated by the suddenness to trip the amygdala to start the process from the hypothalamus and pituitary, and their chemical signals to the adrenal glands and the resulting

muscle tension, pupil dilation, blood rushing from the periphery to protect the viscera and the whole experience of panic and readiness to 'fight or flee', the disposition, and remembered experience of it, engages the prefrontal cortex almost immediately. Hence Damasio regards secondary or social emotions as having a biological origin and their occurrence is not explained by the appeal to intentions. (Damasio, 2010, pp 90-91). For Damasio, social emotions are neither intentional nor are they social constructs. This is not to say that cultural differences do not have any influence on their formation. But given, as Damasio claims "you will find examples of social emotions in chimpanzees, baboons, and plain monkeys; in dolphins and lions…" (Damasio, 2003, p 46), from Damasio's standpoint "It is highly probable that the availability of such social emotions has played a role in the development of complex cultural mechanisms of social regulation" and "One of the many reasons why some people become leaders and others followers, why some command respect and others cower, has little to do with knowledge or skills and a lot to do with how certain physical traits and the manner of a given individual promote certain emotional responses in others." (Damasio, 2003, p 48). Evidence for this, Damasio draws from Darwin's study of emotion as these are displayed in facial expression and from those who follow Darwin such as Jaak Panksepp and Robert Plutchik. This may amount to a question of demarcation between primary and secondary or social emotion since it would appear that by 'social' Damasio understands the situation or context of individuals in their separate acts and plans and not, as Spinoza understands it, as a mode of nature created by individuals who co-ordinate their actions together. Hence Damasio conceives of social emotions as existing biologically prior to the functions they serve.

Since all of our experience in whatever form it becomes dispositional is mediated by the states of the body or emotions, emotions, especially as they are experienced as feeling in the 'as if body loop', that is, in the activity of the brain without regard for the body, 'mark' experiences. They mark them differently accordingly as the experience is of a higher order according to the development of consciousness from the protoself, the core self and the autobiographical self. The pervasive emotion of the protoself does not mark particular experience but he core self would respond to an electrical jolt to the body as reflected in the protoself. Hence complex actions can also be marked and become dispositional. When events in the social environment require us to follow one course of action or another the emotional experience relevant to the result of pursuing any action will 'bias' the course of action we 'chose'. For Damasio "the purpose of reasoning is deciding and…the essence of deciding is selecting a response option…a nonverbal action, a word, a sentence" (Damasio, 1995, p 165). Although all of our actions are biased by our emotional experiences in one way or another it is in the matter of decisions, where choices are being made that the emotional bias becomes significant. This is especially the case where there are risks and dangers or where a decision can lead to risk or danger. Emotional experience contained in dispositions across different parts of the brain and its memory of them converges in the insular. This part of the brain is stimulated when these problem situations arise, especially when experience from memory suggests the choices made would be maladaptive. The activity of the insular is experienced as a feeling of anxiety. But the part of the brain to which the insular projects, and where lower order emotional experience interacts with our sensory experience and factual knowledge is the prefrontal cortex, and it is here, Damasio has conclusively shown, that emotional experience interacts with decisions or the way we respond to problems in the environment, especially the social environment, where a decision must be made. The social environment occasionally presents itself to us as a

situation to which we must adapt and the 'decision' how to adapt is biased by the nonverbal narrative of emotional experience. Emotions do not decide for us (Damasio, 2000, p 42). Hence in discussing the processes of 'deciding' Damasio draws a distinction between "'the high-reason' view, which is none other than the common-sense view" in which "you perform a cost-benefit analysis" in accordance with a preconceived plan and his "somatic-marker hypothesis", namely the emotional experience or feeling marking the possible choices relevant to the facts of the social situation and informed by the mediation of the insular and prefrontal cortex. This may appear intentional but is the product of interactions of dispositions with the contingent events of the social environment. Damasio offers proof of the role of the ventromedial prefrontal cortex (VMPFC) in this by explaining how damage to it compromises judgement in social situations (Damasio, 1996, p 1413). He relates instances where, as a result of damage to the VMPFC caused by an accident or a tumour, the individual concerned, completely competent in all rational endeavours, discussion, performing logical tasks of IQ tests, would be unable to solve problems involving simple gambling risks, or maintain significant personal relations with members of their family and colleagues at work. Without social emotion and its tendency to influence complex social decisions people's lives simply fell apart.

Result

The result of this chapter has solved the problem set by research question 1 (page 67) and confirmed that the Neo-Jamesian theory of Damasio has, except in one respect, the potential for resolving Vygotsky's objections to Jamesianism.

CHAPTER 6: METHODOLOGICAL TEST OF VYGOTSKY'S OBJECTIONS

Introductory survey

In the previous sections I attempted to show that Damasio's theory of emotion is consistent with Spinoza's theory. I followed up references to Spinoza adjunct to those references made by Damasio. It would appear at this stage that Damasio's argument, following from the propositions to which he refers represents Spinoza anticipating some of the results of Neo-Jamesianism or neuroscience in a way that would have appealed to Vygotsky. In this chapter I follow Vygotsky's method of analysis in Theory of Emotion and offer a version of his claim that "there is no more reliable and powerful weapon for the criticism of Spinoza than a testing of his ideas in the light of contemporary scientific knowledge" (Vygotsky, 1999, pp 104-105). This is achieved by substituting the Jamesian theory of his monograph with the contemporary Neo-Jamesian theory of Antonio Damasio and 'testing' each of Vygotsky's objections, made from the standpoint of Spinoza (Ch. 2), in an effort to establish Damasio's theory as the successor to James's theory from the standpoint of Vygotsky. The result of this Chapter will provide the answer to research Question 1 (Ch. 4 (4.1)).

The methodological test I have proposed (Chapter 4) simply tests Damasio's Neo-Jamesian theory against Vygotsky's objections to the Jamesian theory Vygotsky explored in Theory of Emotion (Chapter 2), for the purposes of answering the research Question (4.1): Does Damasio's interpretation of Spinoza's theory of emotion and its development in a biological theory meet Vygotsky's objections to the Jamesian theory of emotions?

6.1 It is empirical (2.3.1.1: page 26)

Damasio's theory is empirical. It is a biological interpretation and application of Spinoza's 'proto-biological' theory of emotion. Vygotsky conceived of Spinoza's theory as the standard for a test of an adequate empirical theory of emotion. Vygotsky seems also to have expected that the results of such a test would be largely biological and probably neurological. Despite the state of neurology in his own day Vygotsky shared an interest in the biology of the brain consistent with the findings of Damasio and Vygotsky shares the reasons Damasio has given for his own dismissal of Cannon's theory of emotion (2.3.2: page 37). Damasio has interpreted a complex theory of emotions as biological and derived an empirically testable theory from it. In this Damasio has probably exceeded the ambitions of Vygotsky. Hence although Damasio claims no more than to offer an hypothesis, since his hypothesis incorporates the 'somatic marker hypothesis' as an integral part of his biological theory of emotions and which is itself based in empirically corroborated evidence, Damasio's Spinozistic 'hypothesis' is a scientific hypothesis and not in the least like William James's speculative hypothesis. Unlike James's hypothesis, which Vygotsky regarded as too simple to test for, on the grounds that no evidence would ever refute it, Damasio's theory, fully explained, is so information-rich that it is a scientific conjecture open to the tests of falsification.

6.2 It is monistic and not dualistic (2.3.1.2: page 27)

Damasio's theory is philosophically monistic in that it accounts for phenomena without appealing to extra-biological entities or constructs for its coherence and it is methodologically monistic in that the explanation Damasio offers for psychological and social phenomena are included within the single explanatory envelope of

biological monism. Unlike the Jamesian theory to which Vygotsky objected on the grounds it was unable to account for differences among feelings without appealing to disembodied 'judgement or appraisal for their differentiation, Damasio's theory includes emotion and feeling, and hence consciousness, under a single explanation of 'embodiment'.

6.3 It is materialistic (2.3.1.3: page 29)

For Spinoza, as for Vygotsky and Damasio, explanation is causal. Causal explanation entails an ontological commitment to a conception of nature as a law governed and deterministic system. Vygotsky's complaint against James, that his theory of emotion was not materialist, was aimed at its inability to explain higher mental functions, including secondary emotions, called by James 'judgements', in terms of the same materialist ontology. For a coherent theory which treats its phenomena as law governed the phenomena of secondary emotions must be ontologically of the same status as primary emotions and higher mental functions the same with lower mental functions. Even if one's ontology was a form of idealism, since idealism is not inconsistent with empiricism or, if Berkeley is right, is entailed by it, it is possible to give an empirical explanation of phenomena provided one's ontological commitments are consistent. Vygotsky's complaint against James is that his explanation of secondary emotions as 'judgement' or appraisal is not an explanation giving evidence of natural phenomena governed or explained by the same laws of nature to which James appealed in giving his explanation of the biological origins of emotion and feeling. With Damasio causal explanation is inclusive of higher mental functions and secondary emotions and hence is, from the standpoint of Vygotsky, non-reductively materialist. That is, the ontological status of physical, biological and social phenomena, though increasing in complexity is

identical. Vygotsky also meant by materialism what was meant by the Soviet Spinoza academician Abram Deborin who 'links Spinoza to the materialists of our time, that is, to the Marxists' (Kline, 1952, p 92) and Yaroshevsky, as I have shown, expected Vygotsky to interpret Spinoza's determinism as continuous with 'sociodeterminism', that is, with historical materialism. Though Vygotsky occasionally uses the phrase 'dialectical psychology' he related Marxism to general psychology rather than to his own specialism, so as Deborin fell out of favour, Vygotsky's work came under debilitating scrutiny. Spinoza's concept of substance is a challenge to language which harbours a tendency to dualism but he guides his reader to a concept of nature which appears to be neither materialist nor idealist. Since however "the order and connection of ideas is the same as the order and connection of things" (Eth. II. 7), Deborin and Vygotsky were able to interpret Spinoza's theory of the attributes of substance as permitting a materialist explanation of mental phenomena and hence the non-reductive materialism consistent with Damasio's biology of emotion.

6.4 It is not intentionalist (2.3.1.4: page 31)

Intentionality is a phenomenological concept which presupposes a non-scientific and Cartesian attempt to explain mental concepts such as 'reason', 'intelligence', 'ethical' and 'judgement'. These concepts are usually entailed in phenomenological attempts to explain consciousness or describe its composition or experience. Intentional concepts express a mental 'attitude', orientation or sense of direction towards an object. Its 'effort' is captured in the sense of the word 'will'. Spinoza explains intention, or, to use his term 'will' as what he calls a mental faculty, which, with 'reason', 'understanding', 'intelligence' and 'judgement' is an idea that arises from a particular use of language and so, "In the same way it is proved, that there is in the

mind no absolute faculty of understanding, desiring, loving, etc." (Eth. II. 48. Sch.). If ordinary language is used unaided by a proper distinction between types of concept then it will lead to generalisations and the creation of reified mental faculties which are used in explanation of mental phenomena in error. Damasio avoids this Cartesian error by referring all these faculties, including knowledge itself to dispositions and the nonverbal narrative. Jan Derry has explained what advantage for an understanding of Vygotsky there is in understanding Spinoza and hence his capacity to reconcile a notion of freedom with determinism. "For Spinoza it is in self-determination that human beings exhibit freedom" (Derry, 2004, p 116) and this is possible for Spinoza, Derry explains, only inasmuch as individuals understand the causes of their own actions and this is possible when ideas or concepts are true. A true idea is not a faculty but understanding when it is an increase in free activity. "An appreciation of this lack of separation is necessary to grasp Vygotsky's epistemology", so Jan Derry denies the 'simplistic idea that the possibility of free action depends upon sufficient knowledge' (Derry, 2004, p 117).

6.5 It is not epiphenomenalist (2.3.1.5: page 34)

Epiphenomenalism avoids the error of Cartesian dualism in the sense that mental phenomena conceived as 'effect' share the same ontology as the 'cause' and the relation of cause to effect is included in a single explanatory theory. Vygotsky thought James's theory epiphenomenal because he explained feelings of the primary emotions as the product of the emotion or state of the body. James's conjecture that changes in facial expression might cause an emotion Vygotsky dismissed for the same reasons as Cannon. Damasio also explains the processes that result in feeling as originating in emotion but unlike James has a neurological explanation of how feeling is reprocessed by the body and the brain. Damasio explains secondary

and social emotions from the development of neural maps and dispositions coordinating various regions of the brain into the nonverbal narrative, including somatic markers. These dispositions are ready to 'bias' a decision when circumstances in the social environment posed problems of adaptation expressed in customs, conventions, etiquette, suitability, morality and in a word 'judgement'. Because the biasing effects the response to the problem or the 'understanding' of the problem in a way which was in previous similar encounters, adaptive, the response reinforces dispositional memory and more strongly biases decisions if a similar problem arises in the future. These adaptations are learned developments of the protoself and core self by the autobiographical self. These explanatory constructs Damasio uses to show that emotional experience is the product of homeostatic processes of increasing complexity. The complexity increases because the evolutionary development of the brain means that it mediates the relation of homeostasis and the environment first through primitive and then through later, complex developments of the midbrain and neocortex. The different layers of emotional experience are plainly not epiphenomenal. Extended consciousness may appear to be epiphenomenal because it is the 'last' layer of consciousness to 'emerge' but this reading of the words 'extended' and 'emerge' introduces a spatial metaphor. In accounting for 'extended consciousness' Damasio is trying to explain how our sensory organs mediated by interaction of the body with the environment or behaviours with the social environment, 'represent' the natural and social environments so that we can adapt. For Damasio adaptation in the social environment poses problems of a greater order of complexity than the natural environment, and this is the case because the social environment is the means of successful human adaptation of the species to changes in the natural environment that would otherwise select against it. Hence no mental and emotional experience is epiphenomenal and the entire theory is biological.

6.6 It makes emotions passive (2.3.1.6: page 35)

Vygotsky did not think the Jamesian theory could explain emotion adequately for his purpose. It could not do this because it presented emotional experience as passive in its response to the environment and could not explain the discrimination between emotions. Moreover, feeling, as epiphenomena of emotion in James's theory, is itself passive effect. Damasio, on the other hand, can explain an entire range of emotions as they are mobilized to mark responses to specific problems where a decision is prompted. But this is still a conception of emotion as a passive stimulus to a solution. The emotion obtains a function when it biases a decision concerning an event in the environment or 'facts' and 'dispositional knowledge' relevant to that environment. Though the somatic marker prompts an action or a decision it is passive in its origins and in its power to 'mark' the significance of alternative consequences. In this sense the function of the emotion is like a behavioural stimulus and is sufficient to explain the behaviour of an individual alone or responding to the problems posed in Damasio's gaming experiment.

In the case of individuals interacting, the relation between them on this account could be adaptive if one individual rewards the actions of the other. Hence if a decision is to be made, the response of the other, if rewarding in some way, would cause the actor to repeat the action and experience the rewarded emotion so marked. This requires an asymmetric social situation in which the actions of one individual can be called a 'reward' for the actions of the other. Even if this relation of rewarder to rewarded were generalised to all social interaction in the sense that each rewards the other for actions that cause pleasure and avoid pain, the explanation of the

mutual interaction is a variety of behaviourism in which each individual is a stimulus to the other. Hence social emotions as described by Damasio are passive.

Damasio's conception of the social environment is not one in which individuals can be motivated unless Damasio means by motivation a stimulus given by a stronger emotional bias to responses or 'reward'. Damasio introduces the word motivation conflated with the word drive in the expression 'drives and motivations' (Damasio, 2010, pp 109-111; 2003, pp 34-37; 2000, p 77 and p 286) hence because "Drives and motivations are simpler constituents of emotion" (Damasio, 2010, p 111), Damasio is unable to conceive of social emotions or social environments as motivating. Hence motivation, in any case 'a constituent' of emotion closely connected to drive, is also conceived by Damasio as passive and has none of the potential to develop a theory of motivation as explained by Spinoza and understood by Vygotsky. When Vygotsky uses the word 'motivation' he uses it in its sense in ordinary language and does not argue that it is entirely explained in biology. Motivation does arise from the emotions but only in social interaction when emotion obtains its salience. Hence "Theories, for instance, about the mechanisms underlying behaviour should not be mistaken for sufficient explanations of behaviour" (Peters, 1960, p 154).

For Damasio emotions are significant in their influence on the rational process of making decisions. But Damasio "did not suggest that emotions are a substitute for reason or that emotions decide for us" (Damasio, 2000, p 42). On the contrary "the operation of logical reasoning is facilitated by the somatic marker" (Damasio, 1996, p 1415). The somatic marker may bias emotional experience during logical reasoning

and reasoning in speech but Damasio does not argue that either logical reasoning or reasoning in speech are themselves mediums of emotional experience or that the emotions may be mobilised in them. Hence Damasio's somatic markers function either before speech or independently of speech. Moreover in a social situation where individuals were interacting with a patient of Damasio's who suffered damage to the VMPFC sufficient to compromise the patient's powers of judgement, the actions of others in the situation would introduce for the conduct of those who help the patient, concepts of 'help', 'compassion', 'responsibility', 'consideration' and 'tolerance'. These are concepts of social interaction not 'expressed' from layers of dispositions represented to the autobiographical self and 'emerging' in feeling in 'extended consciousness'. These are concepts of social emotions captured in speech. They motivate the dialogue between the patient and those caring for him and the actions they shape and plan. Because Damasio's account renders it impossible for language and emotion to mobilise one another in this way, he conceives of language as passive in relation to emotion.

Without a theory of language Damasio is unable to account for social interaction and motivation and the relation they hold to the development of mental functioning. I think I have shown that Damasio's theory renders the emotions passive for the individual, for social interaction and for motivation and language. Taking these points together it would seem that Damasio conceives of emotions as passive after all. This result has not resolved Vygotsky's objection to James's theory on this one point. It might be argued that this result is what must be expected from a biological theory. But Damasio does not think his theory only biological but Spinozist. Had he followed the argument of Spinoza to the Propositions he omitted from his enquiry

Damasio would have been led to a theory of active emotion and motivation. I shall explore this step after the next section.

Result

The result of this chapter has demonstrated that Damasio's theory is more than adequate for the purposes of 'testing' of Spinoza's theory and of meeting Vygotsky's objections to the Jamesian theory. Research question 1 (Ch. 4 (4.1)) was: Does Damasio's interpretation of Spinoza's theory of emotion and its development in a biological theory meet Vygotsky's objections to the Jamesian theory of emotions? Except in respect of Damasio's account of emotions as passive, Damasio's theory resolves Vygotsky's objections to the Jamesian theory and may be regarded as itself the 'test' of Spinoza's ideas Vygotsky expected to attempt. However, Damasio's conclusions concerning passive emotion prevents the development or extrapolation from it of a theory of motivation or active emotion. Part of the problem is the role Damasio seems to assign language. In addition and closely connected to the problem of language, by passing over the distinctions Spinoza draws between types of idea or concept, Damasio is unable to follow Spinoza's argument to active emotions. Spinoza's remarks concerning language are very guarded but they are of a piece with his theory of ideas and active emotion. These two themes or problems concerning motivation and language can be followed in Spinoza but both of these problems converge in the direction of Vygotsky for an answer.

CHAPTER 7: RESIDUAL PROBLEM IN DAMASIO'S THEORY

Introductory survey

The result of the methodological test showed that Damasio's interpretation of Spinoza meets Vygotsky's objections to the Jameson theory except in one matter, namely the matter of passive emotions. This is not in the least a defect of Damasio's theory. Unless Damasio had intended to proceed to the Propositions interpolated between, or following from, the Propositions he followed from Spinoza, his results show that Spinoza is Damasio's 'protobiologist' and that Damasio's Neo-Jamesianism or neuroscience is Spinozist exactly as far as Vygotsky would have expected, and no further. Moreover the result of the review of Vygotsky's Theory of Emotion produced a list of his objections to the Jamesian theory inasmuch as that theory did not serve his purposes in working out a theory of motivation at the end of Thought and Language consistent with his linguist theory of concept development explained in that work and the theory of motivation suggested in his paper, Problem of the Environment. Hence the result of Damasio's enquiry into Spinoza leaves off at exactly that point at which Vygotsky's own enquiries into Spinoza are most significant. That point is exactly the point at which Damasio's theory of emotion intersects with Vygotsky's theory of emotion. To understand exactly this point of intersection it will be necessary to explore how far Damasio went in following Spinoza and the consequences both for his theory of emotion and its potential for a theory of motivation. The result of this analysis will provide the answer to the research Question 2 (Ch. 4 (4.2)): Why is Damasio's interpretation incomplete and how does this lead to a problem concerning his notion of 'extended consciousness'?

7.1 Damasio omits part of Spinoza's theory

Damasio's theory of emotion is a theory of passive emotion because he follows the argument of Spinoza in Part II of the Ethics in those Propositions in which Spinoza sets out his theory of mind and emotion before he makes significant further theoretical deductions. Spinoza begins with his idea of the relation of the mind to the body, which Damasio adopts. At Eth. II. 13 Spinoza states almost by way of definition, that "the object of the idea constituting the human mind is a body". He is not putting the identity thesis that the mind 'just is' the body. Nor is he saying that the mind just knows itself. The interaction between physical objects is a mental event conceived under the attribute of thought. A mind is an idea of the body in its interactions. But because the body is itself constituted by parts and those parts by other parts (Eth. II. 13. Post), the mind is itself constituted by ideas of ideas (Eth. II. 21 Sch.) and it is this 'level' of interaction in the body which Damasio calls the protoself. But in the Scholium to Proposition 13 Spinoza says about this relation of mind to body, "But no one can understand it adequately or distinctly without knowing adequately beforehand the nature of our body", and so introduces his idea of adequacy. Hence the body and the emotional state of the body which are the subject of Damasio's enquiries must be understood 'adequately', a point repeated in Proposition 24. Damasio continues to Propositions 19, 22, 23 and 26 where Spinoza demonstrates how our mind only knows the body itself (Prop. 19) and the mind itself (Propositions 22, 23), through the 'ideas of the affections of the body'. Damasio follows these propositions in the development of his theory of the emotions. The 'affections', sometimes translated 'modifications', are the sensations or ideas caused by an interaction with an 'external body', Damasio's 'emotionally competent stimulus'. This is plain enough in Proposition 26: "The human mind perceives no external body as actually existing, unless through the ideas of the affections of its

body". Damasio's interpretation thus follows Spinoza's demonstration at a particular level of generality. At Propositions 24, 25 and 27 to 29 Spinoza reintroduces the reference to 'adequacy' he made in Eth. II. Prop. 13. Sch. so where Proposition 23, followed by Damasio reads, "The mind does not know itself except insofar as it perceives the ideas of the affections of the body", Propositions 24 and 25, omitted by Damasio, read "The human mind does not involve an adequate knowledge of the parts compositing the human body" (Prop. 24) and "The idea of each affection of the human body does not involve an adequate knowledge of an external body" (Prop. 25). Is it not that the mind cannot know itself except through the ideas of the body. It can only know itself if those ideas are 'adequate'. Further, at Proposition 27, "The idea of any affection of the human body does not involve an adequate knowledge of the human body itself". Propositions 28 and 29 urge the same caution and Spinoza adds, "I say expressly that the mind has no adequate knowledge of itself, nor of its body, nor of external bodies but only a confused knowledge, as often as it perceives things in the common order of nature…" (Eth. II. 29. Sch). Since Damasio omits these Propositions his interpretation of Spinoza can only go so far. Damasio limits the relevance Spinoza has for him to a conception of emotion which is undeveloped or without the potential for development. It follows from this that the emotions Damasio describes are not the energising feelings of our thoughts but their flow in the nonverbal narrative. I should say such emotions are 'passive' and can only be 'energised' by intense random activity which creates a further passive condition of excitement. But, for Spinoza, our thoughts about this and that particular fact are brought together in the seamless flow of our consciousness, that is, in Spinoza, 'desire', only if emotions are active. There are no facts without feeling. Since Damasio does not engage with Spinoza's notion of 'desire' he cannot find the relation between our knowledge and feeling in consciousness, so his 'extended consciousness' is another field of passive responses. So far I have simply shown

the difference between the sense of the Propositions Damasio has selected and those he has omitted. The relations between these Propositions lead to a further 'level' of Spinoza's argument omitted by Damasio.

7.2 Consequences of omission

The introduction of the distinction Spinoza makes between 'adequate' and 'inadequate' ideas does not undermine Damasio's interpretation of Spinoza because he follows Spinoza in those Propositions where he does not draw this distinction. He is simply unable to follow Spinoza in his elaboration of the difference between concepts ('conceptions of the mind' in Spinoza) and hence the difference between passive and active emotions, the active emotions being a proto-biological, or better still, a quasi-biological, account of motivation. Following this distinction between ideas is significant for his argument but Spinoza elaborates upon this with a further distinction to be made between the concept of the 'common order of nature' and the concept of 'common notions' also expressed in the phrase 'common properties of things'.

In short, understanding things in the 'common order of nature' is to understand inadequately, that is, to understand objects and actions or events, contingently. The knowledge formed from contingent events is empirical, what Spinoza calls the 'knowledge of the first kind' and is not yet 'scientific'. This is the knowledge formed by Damasio's 'autobiographical self' and evident in 'extended consciousness'. Damasio's individual can only form inadequate ideas. Because Damasio has not included the distinction between these ideas he cannot construct the idea of an individual, like himself, who is motivated by adequate ideas. His individual is

"determined to the contemplation of this or that externally" (Eth. II. 29. Sch.), by contingent events and hence the state of the body or the emotions follow the 'common order of nature', or events as they happen and hence are simply passive responses to external stimuli. For Damasio, as for Spinoza writing about the passive emotions, "Anything may be accidently the cause of joy, sorrow or desire" (Eth. III. 15). We may be able to organise our lives responding to these emotions passively and Spinoza explores these social interactions which follow from such causes (Eth. III. 16 to 57). So for example "We shall endeavour to do everything which we imagine men will look upon with joy and be averse to do anything to which we imagine men are averse" (Eth. III. 29), or "If we imagine that we are hated by another without having given him cause for it, we shall hate him in return" (Eth. III. 40), and hence by the scholium of that Proposition, if we are the cause of another's hatred "we shall then be affected with shame" or, worse, "He who imagines that what he hates is destroyed will rejoice" (Eth. III. 20)! These are the possible social interactions of passive emotions and for Spinoza, explain most of social existence either because we do not have sufficient power to resist them or because we acquiesce in them, in our work, in our daily routines, in entertainment, and in our understanding of social and political affairs. "Hence it follows that a man is necessarily always subject to a passion, and that he follows and obeys the common order of nature, accommodating himself to it as far as the nature of things requires" (Eth. IV. 4. Cor.).

7.3 Spinoza's psychological 'method'

Active emotions are the experiences of our own activity as we engage with life, with the natural and social world. These are not emotions of our passive, contingent interactions but the emotions of our actions. For Spinoza, to be active is human

nature, so that if our emotions are passive it is because the power of events and others has overwhelmed us. I have established the difference between the Propositions Damasio selected and the Propositions he omitted and the distinction drawn between adequate and inadequate ideas in the Propositions he omitted and what the result was for a biological theory of emotion. In this section I shall explain how the difference between adequate and inadequate ideas is deployed by Spinoza in his 'method' of transforming passive into active emotion or motivation. I seek to show that Damasio's theory amounts to a theory of passive emotion and cannot itself explain motivation. I seek to show that a theory of motivation, while drawing on its biological explanation of the primary or passive emotions, can only be completed in a way that does justice to the concept of emotion or enables it.

Inadequate ideas can only trace their interrelations externally so these ideas are related by association or similarity or 'as they are in the imagination' or memory. By association "according to the way in which words, from some disposition of the body are joined in the memory in a vague way" (Corr. Und. Paras 88-89) words in ordinary language, as signs, 'trace' their objects (Wolf, 1966, p 140). Spinoza distinguishes between universal terms and transcendental terms. Universal terms like 'dog', 'horse', 'apple' are words associated or traced mentally with the generalisation of our particular experiences. So all class terms are generalisations from contingent experiences and are used to denote those particular things that fall under the class term. Transcendental terms such as 'thing', 'being', 'this', are also linguistic signs but they denote nothing in particular.

So these words are really class terms of extreme generality, and it is in error that they are used in explanation or as if they could refer. If they are used in speech unaided by adequate ideas they lead to reified belief in non-existent entities and a return to a Cartesian worldview. Class terms are words used as signs to refer to our experience of things in the 'common order of nature' and hence this use of language can be called empirical. The result is 'knowledge of the first kind'. Although a word may have a public meaning, this is a vague generalisation constituted by the use of language. Apart from the 'meaning', a word also has 'sense' for this and that speaker depending on his use of the word in his experience. Hence, to use Spinoza's example, the word 'horse' has one sense for a farmer, associated in his experience with 'fields' and 'ploughs', and has another sense for a soldier, associated in his experience with 'cavalry' and 'war'. But contingent experience of things known externally constitutes inadequate ideas and consequently "the mind has no adequate knowledge of itself, nor of its body, nor of external things" (Eth. II. 29. Sch.). Hence ordinary language is part of our contingent experience and the meaning or sense word sounds obtain are part of our ordinary contingent experience where we associate the word with our particular use of it. The ordinary use of language will not help us organise our experience except in passively generalising from passive experience itself. From this it follows that "Anything may be accidentally the cause of joy, sorrow or desire" (Eth. III. 15) and, since we think by association when carried along by contingent experience, including the unpredictable phases of an emotional experience our actions will be determined by events and our passive interactions with other people because we "do some things and omit doing others solely because we wish to please them" (Eth. III. 29. Sch.).

Again, “If a person has done anything which he imagines will affect others with joy, he also will be affected with joy…” (Prop. 30), Spinoza traces out these passive emotions and the passive social interactions they describe, up to Part II, Proposition 57. Hence inadequate ideas of ourselves or others or nature in general will leave us enduring passive emotions and passively determined or controlled in a system of rewards and punishments and praise or blame. What is described here are social interactions between atomised individuals in a context that may be called ‘social’. But these interactions are not social relationships. The long range consequence of this for a biological theory of social interaction is conveyed in the theory of Damasio.

As opposed to those things known externally, “By adequate idea, I understand an idea, which insofar as it is considered in itself, without reference to the object, has all the properties or internal signs of a true idea” (Eth. II. Def. 4). It follows from Spinoza’s remarks concerning language that he does not subscribe to a correspondence theory of truth. So a statement is not true because it refers and it is not meaningful because it is true. An idea is true because it ‘agrees’ with its object, which is to say no more than that a mode of nature conceived or understood under the attribute of thought is the same mode conceived under the attribute of extension. So if we have adequate ideas we know our own mind, the body and hence understand our emotions, and external things which are the causes of those emotions. So the ‘internal signs’ of a true idea are its deductive connections or ‘concatenations’ as he calls them, with other true ideas. To put it another way a true idea is like a theory, the internal structure of which is interdeducible, and interdeducible with other theories. A concept is not ‘a picture’, as Spinoza says. It is constituted by ‘dispositions’ in the sense used by Spinoza and Damasio. Hence ideas are actions and their causal concatenation is the flow of Damasio’s nonverbal

narrative. Spinoza would like us to think that the Ethics is just such an idea and the Propositions, aided by our own adequate ideas, since adequate ideas are not conveyed in writing any more than speech, its 'internal signs'. If truth is the agreement of the idea and its ideatum, or our understanding the unity of mind and body, then "Falsity consists in the privation of knowledge which inadequate ideas….involve" (Eth. II. 35) and this is the result of our not being able to explain the causes of our ideas and hence emotions. If anything "requires a cause to exist then it must be understood through its proximate cause" (Corr. Und. Para. 92) so if an "effect can be clearly and distinctly perceived by means of the cause"…"I call that an adequate idea" (Eth. III. Def. 1).

Once we can explain our emotions by the 'proximate causes' of them then we can transform our passive emotions into active emotions. This is Spinoza's 'method' of motivation and I think this reappears in Vygotsky's zone of proximal development. The process of ideas towards their 'perfection' is the prolepsis of the concept.

7.4 Spinoza's explanation of social emotions

The transformation is obtained when we explain and hence organise our ideas of contingent experience, and therefore our passive emotions by means of 'knowledge of the second kind', or higher order ideas. There is no emotion for which we cannot find the cause (Eth. IV. 59 and V. 4). The means is not only empirical knowledge of the common order of nature but empirical experience of nature in those properties it shares in the whole of nature and its parts. These properties are not the result of empirical generalisations from particular instances alone, as in inadequate ideas, or Vygotsky's 'spontaneous concepts' but properties all of nature, including the human

body, already has. The most basic is motion-and-rest. Less basic but still in the whole and part are those social relations which do not hinder human activity but help it. The only relations that increase activity are ones which increase the activity and hence autonomy and emotional wellbeing of the individuals in the social relationship. Individuals who pass passively from one emotion to the next with the passage of contingent events are unlikely to share common notions (Eth. IV. 32 and 34). But since "An emotion which is a passion ceases to be a passion as soon as we form a clear and distinct idea of it" (Eth. V. 3) "through its proximate cause" (Corr. Und. Para. 92), if we seek to understand and hence explain both our own and the emotions of others, our effort to explain engages active emotions of cheerfulness, which we share with others of the same disposition (Eth. IV. 35), and therefore enlist the same common notions (Eth. II. 41). It now follows that since cheerfulness is an increase in our mental activity (Eth. IV. 18), if anything or anyone helps increase our activity (Eth. III. 11), we will be able to explain, with those common notions or adequate ideas thus shared, our own emotions, and the emotions of anyone, in some system of psychological explanation, by their proximate cause (Eth. III. 59) and transform their passive emotions into active emotions (Eth. V. 3). The most 'common notions' shared in social interrelations or societies in which, by III. 11, each increases the power or, in Spinoza's word for the same thing, 'virtue', of others, is "common to all, and all may equally enjoy it" (Eth. IV. 36). Since understanding this is common to all reasonable people, they will desire this for others (Eth. IV. 37). The teacher, for example, is autonomously motivated by the desire to increase the same self-determination or autonomy of his student and his teaching method will not, by III. 11, 'hinder' the emotional activity of the student, but it will, because it is Spinoza's method, so deploy the explanation of an adequate idea of say, the theory of evolution, that in its concatenation with other ideas of the students', the engagement of the student so increases his mastery of the adequate idea, that his own desire or

increase in activity motivates his further social engagement and hence his understanding and transformation of his own inadequate ideas, by means of those and further adequate ideas. Hence not only can we explain and understand our own emotions but we can explain and understand anything else when we are motivated by the same method. Except for the function of emotion this is easily traced in Vygotsky's account of the explanatory relation of scientific to spontaneous concepts in the zone of proximal development. Continuing, very briefly, Spinoza develops the reasons for health in this context (Eth. IV. 38-39) and the role of the law for all, including those who have an inadequate idea of it (Eth. IV. 40). There follows a further account of joy transformed into an active emotion by an adequate idea of it (Eth. IV. 41), why, given this, cheerfulness is always good (Eth. IV. 42), why hatred, since it 'hinders' social relations, 'is never good' (Eth. IV. 43) and an analysis of emotions deployed in social interaction but are not socially empowering, such as revenge, hope, fear, pity, humility and so on (Eth. IV. 44-58). All of the active emotions, or motivations, are social relationships shaped or constituted by 'common notions' or 'entities of reason' (since 'reason' is a 'faculty') and none of them are entirely explained in biology. The biological components explained by Damasio are the primary emotions explained by Spinoza. These emotions enter into all passive social interaction preserving their biological function as explained by Damasio, but are transformed into active emotions or motivation only in social interrelations as explained by Spinoza. Biological explanation of the primary emotions is sufficient for explaining social interaction conceived as passive, such as in a passive interaction where one person has the authority to 'reward' another. But because active emotion is the effect of transformative social relations and not the cause, a biological account of motivation has to be assimilated to biological functions such as drives as expressed in Damasio's phrase 'drives and motivations'. This is where Damasio departs from Spinoza. Damasio argues that social emotions, inclusive of primary

emotions, can be explained biologically and he gives examples of the social emotions in the behaviour of other animals. For Spinoza motivation is explained as the transformation of primary emotions when they are passive into active emotions through social interrelations. Social emotions therefore are not explained biologically and exactly are those dynamic transformative social interrelations. Spinoza can agree with Damasio inasmuch as they both explain primary emotions when they are passive. But Spinoza would insist that Damasio's account of social emotions renders them equally passive with his version of primary emotions, and moreover incapable of explaining motivation, that is, active emotion. Damasio, in not being able to explain motivation, and its means in social relations, cannot explain social emotions. Since he has not followed Spinoza's arguments, Damasio can explain passive primary emotions only, and his account of the emotions, though it is Spinozist, is incomplete. Spinoza is clear that we are unable to transform passive emotions into active emotions because language is misleading. By association words 'trace' our inadequate ideas of our contingent experience, especially in empirical generalisations. Though he explains the role of adequate ideas in their transformation of inadequate ideas in our giving a causal explanation of them, he is less explicit in explaining how language is mobilised in this transformation. Indeed, for Savan, "So sharply does Spinoza separate words from adequate ideas that it is difficult to make out for language any useful philosophical function at all" (Savan, 1979, p 63). Looking ahead I think the function of speech in the relation of adequate ideas to inadequate ideas is explained by Vygotsky but I shall first survey Damasio's ideas concerning language to show how they are compatible with Spinoza's account of inadequate ideas and passive emotion.

Result

Following my demonstration in Chapter 6 that Damasio's theory explains emotions as passive, in this chapter I returned to a consideration of the omissions by Damasio (Ch. 5 (5.4.1)) of parts of Spinoza's argument set out in the Ethics. This is a residual problem for the relevance of Damasio's solution to Vygotsky's objections. In giving an account of the significance of the distinction drawn by Spinoza between active and passive emotions, a distinction omitted from Damasio's explanation of Spinoza's theory of emotion, I have given the answer to research Question 2 (Ch. 4 (4.2) page 69 and 124) and moreover indicated that an explanation of Spinoza's theory which includes the distinction he makes and necessary for an understanding of Vygotsky's project in Theory of Emotion, has the consequence of developing Damasio's own theory.

CHAPTER 8: THE FUNCTION OF LANGUAGE IN DAMASIO'S THEORY

Introductory survey

In this chapter I wish to show how far Damasio's and Spinoza's remarks about language are compatible. I wish to show that just as Damasio's theory is compatible with that part of Spinoza's theory he has developed, so Damasio's ideas about the role of language are compatible with Spinoza's theory of language when he is explicit in what he writes. Spinoza has a use for language as an explanatory tool which mobilises the passive emotions in the development of adequate ideas, but he is not explicit about this role for language and this function of language is also absent from Damasio's account of language but for quite different reasons. I shall argue that Vygotsky's linguistic theory of concept development partly resolves the residual problem of Damasio's theory explained in the previous chapter. I say 'partly' because the complete resolution depends on incorporating the results of Vygotsky's unit of analysis with his linguistic theory and demonstrating how this result further extends the Neo-Jamesian explanation.

8.1 Damasio's concept of language

Damasio argues that my having a core self makes sense of my use of the word 'I'. He argues that "the mind could not possibly translate it as I" (Damasio, 2000, p 186) unless there existed a core self to 'translate' by the word 'I'. Hence "language gives us names for things" (Damasio, 2000, p 108) and even if these 'things' are concepts, as most assuredly the core self is, 'concepts precede words' and 'words and sentences translate concepts' (Damasio, 2000, p 185), those 'concepts that correspond to words' (Damasio, 2010, p 70). Damasio thus insists that consciousness and its concepts precede language. This is why core consciousness

consists of a nonverbal narrative. This does not mean that the written word or speech has no potential to form concepts. Language is an 'external memory system' (Damasio, 2010, p 290) which I share in the semantic memory of my autobiographical self and extended consciousness, though here too Damasio will allow, based on observations of some of his patients, extended consciousness without language. When I use language I use it to 'bring those ideas to you' that 'were formed as auditory, visual, somatosensory images' (Damasio, 2010, p 70). Damasio describes 'interacting sets of structures' by means of which the 'brain processes language'. One structure consists of neural representations of "nonlanguage interactions between the body and its environment", or concepts. A second structure representing word sounds and syntactic rules "when stimulated from within the brain…assemble word forms and generate sentences to be spoken or written" and a third structure "can take a concept and stimulate the production of word forms, or it can receive words and cause the brain to evoke the corresponding concepts". Spinoza accounts for the same process of concatenation of ideas though he does think that the same words do have different 'sense' for different speakers. Nonetheless "from the thought of the word pomum a Roman immediately turned to the thought of the fruit" because "he often heard the word pomum when he saw the fruit" (Eth. II. 18. Sch.). Contingent experience and the coupling of ideas to sounds of words constitutes empirical knowledge or what Spinoza calls 'knowledge of the first kind'. Spinoza regarded this kind of knowledge, unaided by common notions or adequate ideas, as significantly inadequate but Spinoza's account of it is essentially the same as Damasio's explanation of these associations. Damasio is giving a biological account of language as far as language can be explained biologically but it is consistent enough with remarks of Spinoza. Both Damasio and Spinoza give what appears to be an account of language as passive as the primary emotions described by Damasio. An interesting result of a neuroscientific experiment appears to confirm

both Damasio and Spinoza in their accounts of this use of language. The participants in the experiment were given groups of statements covering different topics, ethical, personal, geographical and so on. In each group, statements were plainly 'true' or 'false' or 'undecidable'. The participants had to decide which of the statements in each group were 'believable', 'unbelievable' or 'uncertain'. The experiment employed fMRI to measure the rate of activity in the VMPFC, cingulate cortex and insula. The results showed that participants were quicker to decide that true statements were 'believable' than they were to decide the 'false' statements 'unbelievable'. In addition, and significant for Damasio's theory of emotion, the VMPFC showed more activity when the participants decided the true statements 'believable', and more activity in the cingulate cortex when they selected 'uncertain' for 'undecidable' statements. Most interestingly the authors concluded that "Several psychological studies appear to support Spinoza's conjecture that the mere comprehension of a statement entails the tacit acceptance of its being true… Our behavioural data support this hypothesis…." (Harris, Sheth, Cohen, 2008, p 143). This confirms the connection Spinoza makes between the passive use of language and their function in the passive emotions.

8.2 Explicit and implicit uses of language in Spinoza

Savan was concerned that Spinoza's remarks concerning language did not help his case, though Yovel, in one study and Parkinson disagreeing with Savan (in Grene) in another, have both argued that Spinoza was faced with the problem of attempting to explain ideas that at the time he was writing challenged orthodox opinion. It is Yovel's view that Spinoza uses contemporary scholastic vocabulary either to disguise his unorthodoxy or to subvert the accepted use of academic language in an effort to introduce radically new ideas (Yovel, 1989, p 128-151). Whichever is the

case Spinoza is explicit in what he has to say about what he regarded as the defects of the ordinary use of language and understated about the role for language in his method. Perhaps a distinction can be drawn here between an 'explicit' use of language and an 'implicit' use. It might be argued that Spinoza has shown that a use of language that is 'explicit' leads to the kinds of empirical generalisations from contingent experience that he calls 'knowledge of the first kind' or 'vague experience'. This would seem to make a little clearer the relation of passive emotion to the neuroscience explanation Damasio gives of the relation between images mediated by the third structure which "can take a concept and stimulate the production of word forms" (above). It might also be suggested that another use of language is 'implicit' in Spinoza's method, that is, in the relation between adequate ideas, especially 'common notions' and inadequate ideas, when adequate ideas are the means for the transformation of the passive emotions into the active emotions. Spinoza tells us "It is the knowledge of the second and third kind, and not that of the first, which teaches us to distinguish the true from the false", and in his proof, adds, "This proposition is self-evident" (Eth. II. 42) Though the argument might appear circular the transformation obtained by explanation is the motivating function of active emotions. Active emotions are obtained by the use of adequate ideas as tools and these ideas themselves become the means, since they are also active emotions, of further motivating the relations, the concatenation, between them. Spinoza is not himself explicit in explaining the means by which adequate ideas or common notions function in this way. I think this problem appealed more to Vygotsky than it does to Damasio because Damasio can only account for the theory of passive emotions he has followed in the argument found in his selected Propositions. Despite Damasio having followed Spinoza so far Cromby in one paper and Brown and Stenner, in another, detect elements of Cartesianism in his neuroscience which make the accommodation of neuroscience to the social sciences problematic. Cromby is

concerned that Damasio's neuroscience, in ascribing 'psychological predicates to the brain', creates an 'immanent, embodied self' and 'concretises' it in a way that makes it less and not more accessible for the social sciences (Cromby, 2007, p 160). Damasio's layers of proto, core and autobiographical self may appear to 'concretise' the idea of self in a way not found in Spinoza, at least not explicitly, but when Damasio writes about Spinoza he thinks of him as his proto-biologist and he follows Spinoza in those Propositions where he anticipates some of neuroscience. Similarly, Brown and Stenner "applaud Damasio's attempt to give the brain back its body, but he is not yet a Spinozist until he returns that body to the matrix that is its world" (Brown, 2009, p 132). They arrive at this conclusion because they regard Damasio's theory of emotion as deficient in its account of social emotions. They notice that "the proposition from Spinoza that most appeals to Damasio" (Brown, 2009, p 132) is Proposition II. 19, which Damasio interprets as asserting "the human mind is the idea of the body" (Damasio, 2003, p 12) but Brown and Stenner think this reading has led Damasio to misrepresent the proper relation of the body to the world and add, "It is the body as affected through its encounters that is the source of mind and its knowledge and not the body as such" (Brown, 2009, p 132). Brown and Stenner explore the 'encounters' in considerable detail in order to demonstrate the origins of social emotions in them. To do this they introduce the role of common notions missing from Damasio's account and demonstrate how "They emerge fortuitously during agreeable or euphoric encounters". This approach argues that it is from "encounters marked by euphoria the individual begins to develop the means to exercise adequate ideas" (Brown, 2009, p 123) and hence Brown and Stenner do not follow the consequences for them of Damasio's explanation of primary emotions. On their account social emotions 'emerge fortuitously' from social encounters mediated by common notions, but by Proposition II. 19 "The human mind does not know the human body itself, nor does it know that the body exists, except through

ideas of affections by which the body is affected" and it is the 'ideas of the affections' which Damasio calls the 'protoself'. Damasio, as a biologist, explains the 'emergence' of the consciousness attending the relation between more complex structures and relatively simpler structures and thereby traces the evolution of primary emotions. For Spinoza social relations are mediated by common notions, the means, and end (tool-and-result) of the transformation of passive primary emotions into active emotions. Although Damasio's concept of primary emotion cannot do the work Spinoza wants it to do, Damasio is surely correct in explaining how the complexity of the body and most especially, the brain, mediates experience from the stimulus to conscious feeling. He is correct too, if he, like Spinoza, follows out the consequences of monism. Damasio is unable to bridge the gap between his incomplete version of the primary emotions and social emotions but there is no short cut to the social emotions. Despite their account of the social emotions, Brown and Stenner have not themselves suggested the means of returning the "body to that matrix which is the world".

Damasio has been unable to account for the social emotions as understood by Spinoza as the deductive consequences of his primary emotions, completely understood. For the same reasons Damasio has been unable to follow Spinoza to his complete theory of emotion and method with its potential for a theory of motivation. Social relations, as explained by Spinoza, constitute the mind as a mode. The development of social relations and the concept of them is impossible if primary emotions cannot be mobilised by a method of motivation. Since Damasio's interpretation has rendered the primary emotions passive and his explanation of the relation of words to concepts renders language equally passive his notion of extended consciousness is not compatible with Spinoza's notion of 'social'.

Damasio's individuals are 'atomised' and seem to have no potential for social relationships. If social emotions are active emotions conceived as the product of Spinoza's method, on Damasio's account it would be impossible to form social emotions as understood by Spinoza. Moreover, if Spinoza's remarks concerning language agree with Damasio's similar remarks it would be impossible to use language thus passively conceived to mobilise the emotions. Hence Damasio's interpretation of Spinoza is incomplete and he has not the theoretical means to explain the social activity extended conscious includes. Despite these problems it might be possible to find a solution in the relation of the nonverbal narrative to speech.

8.3 Nonverbal narrative and speech

The nonverbal narrative is the succession of emotional experiences in core consciousness as it represents the combined response to the protoself and interpretations of events in the environment. Damasio insists that the narrative of core consciousness is not given in language. Damasio's role for language emerges with extended consciousness. Damasio's claim is against those who argue that human consciousness arises only in language. Were this to be the case, he argues, he would be unable to make the claim for the role of the core self. Nevertheless Damasio suggests that his "views could be questioned along the following lines. What if….the nonverbal narrative of knowing, occurs below the level of consciousness and only the verbal translation provides evidence that it exists at all" (Damasio, 2000, p 186).

This position is not inconsistent with the explanatory theory of concept development of Vygotsky. For Vygotsky, as for Damasio, “Thought and speech have different genetic roots” and “develop along different lines” (Vygotsky, 1986, p 79). Though the infant responds to word sounds in a pre-intellectual phase, probably not in a way dissimilar to Damasio’s associationist explanation of the relation of concept to word, “at about the age of two the curves of development of thought and speech, until then separate, meet and join to initiate a new form of behaviour” (Vygotsky, 1986, p 82). Vygotsky then traces the development of the intellectualisation of thought through social and egocentric speech, where the child learns from the responses of parents and others, the symbolic power of words, that is, the use of words as signs. The sign is learnt and used in the same way as a gesture. The sign or gesture of pointing was taught when the infant learnt that his effort to grasp with his hand something he wanted could be used as a sign or ‘tool’ with which to point, after his mother responded by giving to him what he grasped at. In other words, his mother taught her baby how to make a sign. Speech becomes a symbolic tool in just this way. The internalisation of speech is obtained in the same way as the memory of the motor actions of grasping. And just as the memory of the gesture incorporates the memory of the response of the mother so the internalisation of the word incorporates its potentials as a sign. The internalisation of speech, especially noticeable with the internalisation of egocentric speech, as the use of language as a tool, into inner, soundless speech, may serve as the point at which Damasio’s verbal narrative becomes internalised as a nonverbal narrative. This permits a distinction between nonverbal narrative that never originates in speech and a nonverbal narrative which originates in speech and is the product of the internalisation of ‘egocentric speech’ as ‘inner speech’.

This nonverbal narrative appears to be ‘those aspects’ Damasio mentions which ‘are the first above the sea level of consciousness and precede the corresponding verbal translation’ (Damasio, 2000, p 187). Hence it is conceivable that thought or core self consciousness, as already represented in the nonverbal narrative, becomes the medium for language. This can happen in two ways. The nonverbal narrative can be mobilised in a conception and use of language in which one speaker’s words are the stimulus for the other speaker’s words. This would appear to be the situation for two individuals meeting and interacting in ‘extended consciousness’. Alternatively the dialogue substituting for common notions is the means for adequate ideas, that is any theory which has explanatory power. As the dialogue proceeds, adequate ideas understood by the speakers, and which explain the relations between their own inadequate and adequate ideas, simultaneously transforms the passive emotions of the nonverbal narrative into active emotions. Since engaging in the dialogue is motivated by the effect of the assistance of the other, the motivation to speak is the transformation of the passive emotions into a social emotion in which they both share as a mode of nature. For Spinoza the mode under the attribute of thought is a mind and the mind is the virtuous social relation between speakers whose speech augments the power of the other. Speech is the means of mobilising the nonverbal narrative but the nonverbal narrative, if made ‘perfect’, through speech, would constitute the ‘nature’ or ‘essence’ of one mode. The emotional development of each obtains their mutual social development. The understanding of concepts of responsibility, authority, law for example, as understood by Spinoza, are developed simultaneously with any concept. Social relations and concepts of them and not social interaction or relations of power are the conditions of learning. This interpretation agrees with Damasio’s insistence on the independence from language of the nonverbal narrative and consciousness of it and begins to suggest where

Vygotsky's linguistic theory of concept development and his plan for a theory of emotion intersects with Damasio's theory of emotion.

Result

In this chapter I have argued that Damasio's biological explanation of language shows agreement with what Spinoza says explicitly about language and that Damasio's account of nonverbal narrative, and hence passive emotion, is equivalent to the results of the interiorisation of speech, or 'inner speech' as explained by Vygotsky. This means this chapter has prepared the way for arguing that the transformation or conversion of passive emotion into active emotion or motivation is obtained during the process of the interiorisation of speech for the explanatory or 'scientific' concept as this is explained by Vygotsky in his linguistic theory of concept development.

CHAPTER 9: VYGOTSKIAN THEORY OF MOTIVATION

Introductory survey

An attempt has been made to demonstrate that the relation of Vygotsky's psycholinguistic theory to Damasio's neuroscience is mutually inclusive. That is to say, I have attempted to demonstrate that while Vygotsky's psycholinguistic theory of concept development is able to complement the neuroscience theory of emotion of Damasio, Damasio's theory simultaneously explains the biological origins of emotion in an account sufficient to meet most of the objections Vygotsky raised against the Jamesian theory. However, I have shown that in arguing that his biological theory of emotion is Spinozist, Damasio omits the distinction Spinoza draws between adequate and inadequate ideas and hence offers a theory of emotion equivalent to Spinoza's theory of passive emotion only. Vygotsky's psycholinguistic theory, on the other hand, is able to explain the same relation to those passive emotions while advancing Damasio's notion of concept. It is now possible to explain how the transformative relation of Vygotsky's scientific concepts to the biological origin of emotion, explored by Vygotsky in his unfinished theory and now fully explained by Damasio, would have followed Spinoza's argument for the transformation of passive emotion into active emotion or motivation through the agency of adequate ideas. But to further that argument I shall also explain the relation of Vygotsky's unit of analysis which I explained in Chapter 4 (4.3-4.4) especially as it developed into the function of 'emotional experience', to Damasio's theory of emotion.

9.1 Phases of unit of analysis

Vygotsky's unit of analysis would capture or represent "those properties that belong to thinking as a whole" (Vygotsky, 1986, p 211) and "would equally well represent personality, motivation, volitional and emotional processes in their interrelation with the intellectual sphere" (Zavershneva, 2014, p 78) and hence demonstrate how "consciousness emerges as some form of interrelations of all psychological processes" (Zavershneva, 2014, p 77). Vygotsky's research and exploration of this unit in his various writings in the last two years of his life pass through stages of development and he retraces his thought in his last works so that what appears to be the full development of his unit of analysis in Thought and Language (1934) contains ideas which had already led him to earlier conceptions of the unit of analysis. Yaroshevsky has argued that Vygotsky's psychological theory was intended to advance from biodeterminism to sociodeterminism and to offer a solution to the gulf between natural history and human history, and hence as Vygotsky was "contemplating the path he would have to take in his study of motivational (emotional-volitional) determinants of man behaviour" (Yaroshevsky, 1989, p 313), his conceptualisation of the unit of analysis underwent its own development.

It might appear that Vygotsky's developed thought concerning the unit of analysis is represented in Thought and Language (1934) by 'meaning' but his remarks concerning the 'affective-volitional' at the very end of that work are most fruitfully understood in the context of the earlier Problem of the Environment (1934) and Theory of Emotion (1933). If one includes Emotions and their Development in Childhood (1932) where Vygotsky explores the difference between the function of emotion in young children and in apes, Vygotsky's interests in emotion conform to the wider perspective argued for Vygotsky by Yaroshevsky. Although I will treat

each of Vygotsky's units as if they were separate conceptions yet these background considerations will help demonstrate the stage-growth development of the unit of analysis and how, taken together, the different conceptions of the unit show its explanatory power.

It is usual to suppose that "Vygotsky postulated the meaning of the word as the primary unit of consciousness" (Yaroshevsky, 1989, p 297) and since "the unit of our analysis will thus contain in the most fundamental and elementary form the properties that belong to thinking as a whole" (Vygotsky, 1986, p 211), as I have explained above in Chapter 4 (4.3-4.5), "word meaning is an elementary 'cell' that cannot be further analysed and that represents the most elementary form of the unity between thought and word" (Vygotsky, 1986, p 212). I shall explain how word meaning can be understood with other of Vygotsky's conceptions of the unit of analysis below but Zavershneva has shown how Vygotsky appeared to move away from word meaning as his unit because he "failed to reveal all aspects of consciousness in word meaning" (Zavershneva, 2014, p 78) and after being "accused of intellectualism" (p 78), "Vygotsky spent the last two years of his life trying to overcome the intellectualistic bias of his theory…"(Zavershneva, 2014, p 86). Yaroshevsky himself relates "When he was completing his analysis of meanings (in Thought and Language, written in the same years when he worked on the treatise on emotions), he was already beginning to distinguish between the meaning and sense of the word" (Yaroshevsky, 1989, p 313). This of course is the discussion in the last chapter of Thought and Language but Yaroshevsky has suggested that in trying to understand and explain the "motivational (emotional-volitional) determinants of man's behaviour, Vygotsky focussed more and more on the concept of sense" (p 313). That is, the concept of sense represents a further,

transitional, unit of analysis, a unit in transition towards 'emotional experience'. If one thinks of the unit of analysis as evidence of Vygotsky's methodology as itself undergoing a process of development we do not have to match the stages in the development of the unit of analysis with the order in which he appears to explore them in his writing. From this perspective, Theory of Emotion was awaiting the results of Problem of the Environment. It was in this work that Vygotsky considers emotional experience as a unit of analysis, but not as a new unit separate from meaning and sense, hence "The notion of perezhivanie encompasses all aspects reflected in the notion of sense" says Zavershneva (2014, p 91). However, after having explained why drawing distinctions between 'meaning', 'sense' and 'emotional experience' does not match the historical order of Vygotsky's treatment of these units I would prefer to argue that the relations between these concepts of the unit of analysis are interdependent and possibly even inclusive and cumulative.

9.2 Unit of analysis as meaning

It is broadly accepted that by teasing apart the relation of thought to speech Vygotsky succeeded in demonstrating that there is an ape-like stage in the development of human consciousness which is prelinguistic. By analysing the development of the relation of thought to speech Vygotsky was able to explain consciousness in terms of concepts or meaning, the alignment of thought with word sounds as tools to enable action. One can observe his painstaking analysis of this as he traces the development of this alignment through the development of the complex to the pseudo concept and the concept. When he arrives at the concept or word-meaning he has arrived at the product of analysis, the unit "capable of retaining and expressing the essence of that whole being analysed" (Vygotsky, 1986, p 211). The whole is human consciousness and in its part and whole it is understood in

terms of meaning. Later Wittgenstein advanced the cause of ‘meaning’ as the principal preoccupation of philosophical analysis but Vygotsky sought to demonstrate ‘meaning’ as integral to the nature of human consciousness itself. In developing his theory of word-meaning and of the concept as the alignment of thought and speech in word-meaning, Vygotsky needed to trace the use of words in their generalising of experience, one of the principal consequences of word use. In Chapter 6 of Thought and Language Vygotsky notices how concepts which generalise experience can themselves be generalised by a higher order concept. Although he does not say so, this relation of lower order generalisations to a higher level general concept, not strictly as empirical generalisation, is the relation between inadequate ideas to adequate ideas exactly as explained by Spinoza. Adequate ideas are the means of organising inadequate and of course, other adequate, ideas into a system of ideas of nature or science. These higher order concepts are scientific concepts and “Thus the very notion of scientific concept implies a certain position in relation to other concepts, i.e. a place within a system of concepts” (Vygotsky, 1986, p 172). The lower order concepts which generalise experience and the meaning of class terms which achieves this, Vygotsky variously calls ‘spontaneous’ or ‘everyday’ concepts and they can be thought of as being related one to the other ‘horizontally’. The systematic relation of such spontaneous concepts by scientific concepts, on the other hand can be conceived as ‘vertical’. The idea of the relation of scientific concepts to spontaneous concepts as vertical helps one grasp the deductive relations the scientific concept lends to spontaneous concepts. Spontaneous concepts, being ‘horizontal’ generalisations, are the products of induction, repetition and habit and its language cannot be used to ‘explain’. The language of spontaneous concepts can ‘capture’ empirical or concrete experience and perhaps distinguish between the physical force of these experiences in its pre-scientific conceptual meaning but it cannot ‘explain’ the relations between these parts of

experience. The language of the scientific concept achieves this explanation because it is a use of language shared with another, the 'more expert' other, peer, parent or teacher, who has already, historically, understood the use of language which leads to the development of the concept or word meaning. If one likes to think of consciousness as constituted by concepts, then these are meanings. Meaning is obtained or developed in word-use and language is used as a tool for its own development but principally as a means for understanding our experience from simple sensory experiences or 'qualia', to the multitude and complex forms of culture, its language, architecture, painting, music, and the other complex artefacts of science, technology, agriculture, that is, nothing less than the cultural environment in which human existence is sustained. Most important our engagement with this universe of meanings is social. The shared use of language is the necessary condition for the meaning and hence conscious awareness of the natural and built environments and simultaneously the social environment. The scope of Vygotsky's explanation, the role in his explanation of scientific and spontaneous concepts, of language, culture, the 'more expert other' is vast. But as Vygotsky came to distinguish between meaning and sense in Thought and Language he edged towards an explanation which included "the last step in our analysis of inner planes of verbal thought". It is thought, as Yaroshevsky and Zavershneva have independently suggested, that Vygotsky 'advanced' from 'meaning' to 'sense' as a new unit of analysis. I wish to argue that there is a single coherence to Vygotsky's psychology. Where Spinoza explains the organising relation of adequate ideas to inadequate ideas, the adequate ideas are shared with other individuals as 'common notions', as I have explained above, and these substitute for the role of language in Vygotsky's theory. Nothing relevant to Vygotsky's unit of analysis as meaning, such as the difference between scientific and spontaneous concepts is irrelevant to 'sense' as the suggested new unit, but the 'last step' has to include an explanation

equivalent to Spinoza's theory of motivation, which explains how 'common notions', and hence, I argue, language, can mobilise the emotions and effect their transformation from passive to active during speech for the development of the scientific or explanatory concept.

9.3 Unit of analysis as sense

Where "Previously, Vygotsky believed meaning to be the principal unit of the psychical, now a new unit came to the fore, namely sense" (Yaroshevsky, 1989, p 315) and this is already evident in Vygotsky's discussion of the difference between meaning and sense. If one thinks of the meaning of phrases such as 'French Revolution' or 'Principia Mathematica' these meanings serve as references to historical or scientific features of culture but can serve no more to someone who has not also read widely about the events of the French Revolution or who knows something about Isaac Newton or about physics and has formed a scientific or explanatory concept of the French Revolution or Principia with its 'internal' systematic components. The records which are the Principia might also be called 'public meaning', that is, the public knowledge in Popper's World Three. They exist as parts of culture and civilisation whether or not anyone reads them or understands what is read. It is like history, dead and lifeless. It is not brought to life by copying or by rote learning or by memorising and repeating it. There can be no mental development in learning to copy and repeat the dead and lifeless. But as the language of spontaneous concepts of 'stone', 'fall', 'heavy', are used in the explanation of 'gravity', so the scientific concept, the concept used to explain these terms, is gradually developed in word use. As the scientific concept of gravity is developed in speech, simultaneously the spontaneous concept of 'stone' for example, undergoes further elaboration until it too is understood as part of another

explanatory science of geology. Word use for the development of the concept of 'gravity', like the meaning of spontaneous concepts, has itself to depend on the context and experience of the speakers using the relevant scientific language. To take Spinoza's example again the meaning of the word 'horse' has one sense for a farmer, who uses a horse to plough his fields and another sense for the soldier who rides his horse into battle (Eth. II. 18. Sch.). Neither the farmer nor the soldier share the biologists scientific concept and 'public meaning' of the word 'horse'. Even the sense of the word 'stone' can be thought to change with the context and experience of different users of the word, but the word itself can be thought to have the meaning of a scientific concept or public meaning, so that "meaning remains stable throughout the changes of sense" (Vygotsky, 1986, p 245). Sense is the interiorisation through inner speech of the public discourse of the scientific concept or its public meaning. During its interiorisation the explanatory power of the concept is found in its rearrangement of concepts deductively connected to it. This rearrangement represents a modification, adjustment or reconfiguration of one's conceptual scheme or frame of reference or world view with consequences for the whole 'inner life', mental life and nonverbal narrative. But this also represents the 'understanding' of the public meaning. Its assimilation has passed through 'sense' to 'personal meaning' and this personal or private meaning represents the development of the public meaning of the scientific concept for this or that individual. It represents the individuation and personalisation of learning. At this stage the concept of 'gravity' for example, has become a means of the perception of the physical world. The concept or theory has 'ascended to the concrete'. It is not a theory detached from the data while explaining the data. It is the development of a true concept, the understanding and explanation of which amount to the same thing, but while, as Yaroshevsky remarks, "sense denoted the individual's emotional experience of the tense motivational attitude to the world" (Yaroshevsky, 1986, p 315), this is still only a

stage in the development of psychological explanation in the unit of analysis. Yaroshevsky is correct in making the connection from ‘sense’ to ‘emotional experience’ but to understand the difference between these stages or versions of the unit of analysis it is necessary to understand the function of emotional experience and hence to return to the Spinoza of Vygotsky’s Theory of Emotion.

9.4 Unit of analysis: emotional experience

In suggesting “sense denoted the individual’s emotional experience” (Yaroshevsky, 1986, p 315) Yaroshevsky perhaps did not want to distinguish sharply between ‘sense’ and ‘emotional experience’ as separate units of analysis. Although Zavershneva thinks of ‘emotional experience’ as a ‘new unit of investigation of consciousness’, this also marks for Vygotsky a “transition from sense to a special unit of analysis that he refers to as perezhivanie” (Zavershneva, 2014, p 90) rather than a boundary or demarcation between the product of the previous and the current unit of analysis. Vygotsky explored ‘emotional experience’ in Problem of the Environment prior to completing Thought and Language so the emphasis he gives to word-meaning as his unit is qualified when he adds, “Thought is not begotten by thought: it is engendered by motivation, i.e. by our desires and needs, our interests and emotions” (Vygotsky, 1986, p 252). That is, “Vygotsky saw the word behind thought, and he saw the emotional and volitional tendencies behind verbal thinking as a whole” (Zinchenko, 2007, p 214). Nonetheless “Vygotsky claimed that human emotions develop, but he did not explicitly state how this happens” (Magiolino, 2013, p 96). The Neo-Jamesian and Spinozist part of a suggested statement of at least the development of human passive to active emotion has been attempted above (Chapters 5 to 7) but it is necessary to return to Problem of the Environment to

understand the relation of Vygotsky's concept of 'emotional experience' to Damasio's Neo-Jamesian and Spinozist theory of emotion.

In Problem of the Environment Vygotsky found it helpful to consider the way events in the environment are experienced by the individual as subjective emotional experiences. His approach to this problem is not unlike that of Spinoza. Both consider the human body in its interactions with its environment, broadly conceived. These interactions modify the internal environment of the body and these internal changes determine the nature of future interactions. These internal changes are understood as emotions and all future interactions are therefore "refracted through the prism of the child's emotional experience" (Vygotsky, 1994, p 340). No number of children experience the same environment in the same way. Hence the "environment is the source of development and not its setting" (Vygotsky, 1994, p 349). Vygotsky explains this in respect of the social environment with an example of three children of ages roughly three, seven and thirteen, whose mother suffers various psychological disorders as a consequence of her excessive drinking. Vygotsky relates how each child regards the same environment differently depending on each child's previous experience. Hence the youngest, unable to understand the reasons for the chaos of his environment, responds by developing neurotic symptoms, and of the eldest, since he has become responsible for the welfare of the other two, Vygotsky adds, his "course of normal development was severely disrupted" (Vygotsky, 1994, p 341). Nevertheless, if this development is traced it is found, at different stages, always to lead in the direction of a more complete form so that the "result of the developmental process is already available in the environment from the beginning" (Vygotsky, 1994, p 348) and it is in the direction of this "ideal or final form" (p 349) that development is adjusted from its 'primary

form' or the initial stage of this process of development. Again, the final form is the meaning of the cultural form, the particular creation or artefact from the multitude of forms of the arts, the built environment, science and industry. The development and interiorisation of the final form, that is, the prolepsis of the concept, is the end of an educational process when the public meaning of an utterance, a written statement, a theory or explanation of a given artefact has passed through its accommodation to the background knowledge, presuppositions, or worldview and context of this or that individual, that is, its 'sense' and nonverbal narrative and finally ended with the personal and private meaning of the utterance, written work or theory of this or that object or artefact. The educational process is the process of mental development and therefore nothing less than the process of socialisation and acculturation. There is no mental development without this acculturation. Acculturation is the absorption and inclusion of the individual 'into' the cultural forms of social life. Some of these cultural forms and artefacts, such as toys, play and games for example are themselves, whether intended or not, historical cultural means for development, but their use can only be understood in this way from the standpoint of the parents or the teachers understanding of the complete form, the final form or public meaning of, in this case, play or games. For the parent or teacher the significance of toys and games and of the use of computers and other gadgets is that their uses serve as markers, staging posts, 'rites of passage' and as preparation for more complex and demanding activities and encounters. On the other hand for the very young child what is significant is the emotional experience of the toy, the play and the games, the increased voluntary activity, the endless talk with playmates, laughter and the final overall feeling of contentedness and happiness about the play or the game. Vygotsky has explained how emotional experience, at once the 'prism' through which the environment is understood, itself undergoes changes which begin in the environment. These changes can be called 'developmental' if they mark stages

recognisably closer to the final forms as they are present in any culture. The children of my illustration will become like the parent if the idea of mature parenthood is achieved through successive stages of enabling emotional experience. Emotional experience must undergo change in the nature of development but it might also be suggested at this point that emotional experience be also 'enabling' and that it motivates development. In Problem of the Environment Vygotsky explores the differences between the way children and adults use speech to generalise and how the inability of the child to understand generalisation in any but its most concrete form determines the long path of development, but he does not explain how the use of speech might be motivated through stages of emotional experience.

In his earlier study of infancy Vygotsky remarks on the inability of the infant to distinguish between itself and its surroundings. In describing this 'infant consciousness' as 'passive', Vygotsky continues, "If we understand that word in the meaning that Spinoza used in differentiating passive and active, passive or effective mental states, then we can with complete justification maintain that the initial consciousness of the infant still completely lacks active mental states, that is, mental states internally determined by the personality" (Vygotsky, 1998, p 233). Vygotsky does not draw this distinction between passive and active states in Problem of the Environment and there he broadly considers emotional experience as if it were a passive state. Nevertheless, if this earlier reference suggests how Vygotsky understands Spinoza it is reasonable to consider how maintaining the distinction between 'active' and 'passive' in 'emotional experience' as the unit of analysis might help elucidate the relation of speech to the nonverbal narrative as I have suggested in chapter 8.

9.5 'Perfection' or 'final form' in Spinoza's theory

The concept of prolepsis I have addressed in Chapter 4 and above appears in the writing of Spinoza in connection with the activity of the human body and its mental activity. In his simplest account Spinoza says "…we shall call it perfect as soon as we see the work has been brought to the end which the author had determined for it". Spinoza's account is not unlike the notion of final form considered earlier and, when he refers to 'transition', it is not even lacking in a notion of development. Although Spinoza does not conceive of steps or stages in the development of a concept he thinks of mental activity in terms of greater or lesser 'perfection', so "The more perfection a thing possesses, the more it acts and the less it suffers; and conversely the more it acts, the more perfect it is" (Eth. V. 40). Since, "By reality and perfection I understand the same thing" (Eth. II. Def 6) every mode or part of nature is as perfect as its activity, considered in itself and in its relation to the rest of nature. As far as concerns the mental activity of this or that person "…the mind can undergo considerable changes, and can pass now to a state of greater perfection, now to one of less perfection, and it is these passive transitions that explicate for us the emotions of pleasure and pain" (Eth. III. 11. Sch.). These are the primary passive states Vygotsky ascribes to the infant referred to earlier. There it was found, in the context of the distinction drawn by Spinoza between active and passive states, that "the initial consciousness of the infant still completely lacks active mental states" so that, "In this sense, we might say that the child passes in this period an animal-like stage of development that is marked by absence of consciousness of his own activity, his own personality" (Vygotsky, 1998, p 233). My point here is that in addressing the question how the infant will traverse the cultural gulf between its initial passive consciousness and forming its own 'personal' consciousness and self-consciousness, Vygotsky has turned to the part the environment, as the origin of the

final or complete form of the concept, plays when it is understood as capable of distinguishing between active and passive emotions as Spinoza conceives them.

Most of Parts III and IV of the Ethics is devoted to a painstaking analysis of the layers of human life determined by social norms of simple interaction, like praise and blame, which are nothing more than derivations of reward and punishment, which are themselves analysable into forms of pleasure and pain. Individuals thus rewarded and punished, praised and blamed "…are assailed by emotions that are passive and to that extent one and the same individual, too, is variable and inconstant" (Eth. IV. 33) and moreover "Insofar as individuals are assailed by emotions that are passive, they can be contrary to one another" (Eth. IV. 34). Now "active states of the mind arise only from adequate ideas; its passive states depend solely on inadequate ideas" (Eth. III. 3). If the argument of Spinoza is followed from Propositions that distinguish between adequate and inadequate ideas, omitted by Damasio, it will become clearer now the theory of active and passive emotion can be accommodated to the distinction drawn by Vygotsky between scientific and spontaneous concepts. If an effort is made to understand the emotions by the same causal explanation nature as a whole is understood it is found that "the idea of any affection of the human body does not involve adequate knowledge of the human body" (Eth. II. 27), its parts (Eth. II. 24), any objects external to the body (Eth. II. 25) or the mind (Eth. II. 29). When we move our body and engage in some activity, if that activity causes pleasure, "the mind, as far as it can, endeavours to think of those things that increase or assist the body's power of activity" (Eth. III. 12) because "When the mind regards its own self and its power of activity, it feels pleasure, and the more so the more distinctly it imagines itself and its power of activity" (Eth. III. 53). As we have noticed above, from Eth. III. 3, "the essence of the mind is

constituted by adequate and inadequate ideas" (Eth. III. 9. Proof) of the activity of the body experienced as emotions, so taken together, the activity and the idea of it is appetite, and feeling, or to use Spinoza's word for feeling, 'desire', is therefore "appetite accompanied by the consciousness thereof" (Eth. III. 9. Sch.). Because the mind feels pleasure, or 'cheerfulness' (Eth. III. 11. Sch.) when it regards its own activity, it will begin to notice that "Besides the pleasure and desire that are passive emotions, there are other emotions of pleasure and desire that are related to us insofar as we are active" (Eth. III. 58) and these are always emotions of pleasure or cheerfulness "So no emotions of pain can be related to the mind insofar as it is active" (Eth. III. 59. Proof). This proposition marks a dividing line between Spinoza's account of an utilitarian ethics which is fostered by rewards and punishments and disengages the mental life of the individual who is rewarded or punished and an account of ethical relations between mentally active individuals. Once one is able to make the distinction between active and passive emotions it becomes evident that mental activity and active emotion, or to use the psychologically equivalent term motivation, are indissoluble aspects of the same psychological phenomenon or Vygotskian unit of psychological phenomena.

Since "active states of the mind arise only from adequate ideas…" (Eth. III. 3) and the mind "endeavours to think of those things that increase or assist the body's power of activity" (Eth. III. 12), then, granted Propositions 58 and 59 of Ethics III, quoted above, it follows that "A passive emotion ceases to be a passive emotion as soon as we form a clear and distinct idea of it" (Eth. V. 3), that is form an adequate idea of it. There are many kinds of adequate idea but it will be helpful to distinguish again between what Spinoza calls 'universal notions' on the one hand, and 'common notions' on the other. Universal notions are inductive generalisations from empirical,

contingent, sensory experience and can be connoted by class terms. These adequate ideas may be thought to include general theories but Spinoza, in the Ethics and in his correspondence, argued the insufficiency of induction as a source of any but the lowest, but not the only, 'knowledge of the second kind'. Empirical ideas are themselves in need of deductive organisation or a system of ideas of a logically higher order, and since "Whatever ideas follow in the mind from ideas that are adequate in it are also adequate" (Eth. II. 40) this deductive organisation is obtained though those adequate ideas Spinoza calls 'common notions'. Because, as I have shown above, Spinoza explains mental phenomena without appealing to the notion of 'mental faculties', common notions are, under the attribute of thought, 'our reasoning processes', and 'motion-and-rest' under the attribute of extension. Common notions, being our 'reasoning processes', are common to all individuals who are not divided by differences of passive emotion but "Insofar as individuals live under the guidance of reason, to that extent only do they always necessarily agree in nature" (Eth. IV. 35) and since "Insofar as a thing is in agreement with our nature, to that extent it is necessarily good" (Eth. IV. 31), it follows that "The highest good of those who pursue virtue is common to all, and all can equally enjoy it" (Eth. IV. 36). Hence it is in communication or sharing through the 'common notions' that active emotions 'arise' from adequate ideas as per Eth. III. 3 and Eth. V. 40: "In proportion as each thing possesses more of perfection, so it is more active, and less passive…", but equally it is in the social environment of active emotion, the social relation of motivation achieved through common notions, which enables adequate ideas. Hence: "…and vice versa, in proportion as it is more active, so far is it more perfect" (Eth. V. 40). Earlier, in Chapter 8 (8.2) I argued for an interpretation of Spinoza's 'common notions' as a particular use of language implicit in Spinoza's theory. If one understands 'common notions' in this sense, that is, as a language, then the role of language for Vygotsky, in the explanation of the relation of scientific

to spontaneous concepts, is not unlike the role of common notions in the explanation and understanding of the relation of adequate to inadequate ideas. If this isomorphy is permitted, the purpose the difference between adequate and inadequate ideas has in making the distinction between active and passive emotions, and hence the function of active emotions in the 'transitions' to the 'perfection' of adequate ideas, suggests the role the distinction drawn by Vygotsky in his writing about infancy, and referring to Spinoza, between active and passive emotions, may have in understanding 'emotional experience' as his unit of analysis. I suggest the distinction Vygotsky makes between scientific and spontaneous concepts can be understood in relation to emotional experience in the same way the distinction Spinoza makes between adequate and inadequate ideas is understood in relation to active and passive emotion.

9.6 The relation of Spinoza's theory to the problem

In Problem of the Environment Vygotsky explains the relation of the process of prolepsis to development or changes in emotional experience and he summarises his argument that the social "environment's role is the development of higher, specifically human characteristics and forms of activity is as a source of development" (Vygotsky, 1994, p 351). But Vygotsky does not harness Spinoza's distinction between active and passive emotional experience to speech. Following the direction of Vygotsky's thought it might be possible to argue that the distinction between active and passive emotion can be incorporated into emotional experience as the unit of analysis or perhaps as a final phase in the development of this concept. I have argued in Chapter 8 (8.3) that the interiorisation of speech through 'inner speech' can be traced in Damasio's concept of nonverbal narrative and thus argued the relevance of Damasio's Neo-Jamesian and neuroscience theory of

emotion to Vygotsky's psycholinguistic theory of concept development. However an account of the act of speech is not sufficient to explain the process of interiorisation of speech or the role of the nonverbal narrative in that process. The explanation has to include the function of emotion in that process hence I argued in Chapter 7 (7.3) that the omissions by Damasio of parts of Spinoza's argument could be resolved by introducing the significance to Spinoza's argument of the difference between active and passive emotions. In those arguments I attempted to demonstrate the coherence of Vygotsky's Spinozist theory of emotion with Damasio's Spinozism by arguing from Damasio's Neo-Jamesian neuroscience solutions to Vygotsky's objections to the Jamesian theory of emotion to a theory of emotion consistent with Vygotsky's psycholinguistic theory of concept development. I suggested that Spinoza's completed theory of ideas, notably the difference between adequate and inadequate ideas, could be re-introduced as the preliminary to explaining the relevance of Vygotsky's distinction between scientific and spontaneous concepts. I argued that further to demonstrating Damasio's own biological notion of concept as equivalent to Vygotsky's notion of spontaneous concept, it would be possible to demonstrate Damasio's theory of mind as more completely Spinozist if the distinction between adequate and inadequate ideas was introduced in the Vygotskian form as the distinction between scientific and spontaneous concepts. Conversely, had Damasio included Spinoza's distinction between adequate and inadequate ideas in a complete account of Spinoza's theory of mind, he would have had to make way for the Spinozist distinction between active and passive emotions. This he could not do if he conceives emotions biologically, and as the result of passive interactions. From Spinoza's perspective, Damasio in treating emotions as passive response to stimuli, correctly explains those social interactions created in a culture of praise and blame, with their origins in rewards and punishments, and hence as nothing more than complex forms of the pleasure and pain which mobilises the simplest organisms.

Human emotional life thus conceived and rewards and punishments and their administration, in schools, for example, depends on a behaviourist conception of emotional experience as that which constitutes the responses to rewards and punishments. Had Damasio included those Propositions of Spinoza that he omitted he would have incorporated the philosophical and conceptual apparatus for explaining the difference between non-human animal behaviour and its 'social' interactions and human social relationships and why these are creative. That is, Damasio would have established the difference between, on the one hand, animal behaviour and human 'social' interaction understood in terms of pleasure and pain, reward and punishment and praise and blame and hence an utilitarian ethic of behaviour and a conception of motivation he assimilated to animal 'drives', and on the other hand distinctly social relationships understood as mutually motivated by the transformative active emotional engagement with knowledge, culture and 'life'. Further, it follows from this, had Damasio included Spinoza's theory of emotion complete, he would not have made claims for biology that are possible only when understood from the philosophical perspective, first, of Spinoza, but finally, from the scientific perspective of Vygotsky. In this section I have attempted to demonstrate how Spinoza's distinction between active and passive emotion represents a solution to the problem of understanding 'emotional experience' as a unit of analysis. I have suggested that Vygotsky was aware of this possible solution and that his objection to the Jamesian theory that it rendered emotions passive (Chapter 2 (2.3.1.6)) and which problem reappears as only one component of Damasio's Neo-Jamesian and neuroscience advance from the Jamesian theory, is resolved, first, by including Spinoza's distinction between adequate and inadequate ideas and therefore the relevance to that distinction of the difference between active and passive emotions, and second, by indicating the consequences for educational psychology of understanding Damasio's biological and neuroscience theory extended from the

perspective of Vygotsky's psycholinguistic theory of concept development. It is possible to return to Vygotsky's theory and demonstrate its relation to emotional experience.

9.7 Passively motivated speech

If an explanation is offered of concept development without regard to the function of emotion in the process of the development of a concept the explanation must at least account for dialogue. That is to say an explanation cannot be given if one were to argue that concept development can proceed in the mental life of this or that individual alone and taken in isolation. An explanation of speech in concept development can be made which follows word use for some object or event from its meaning, its interiorisation through inner speech and egocentric speech, to its sense for the speaker and its appropriation. The speaker's use of language would be taken as evidence that the concept has reached its final or complete form. But this explanation does not demonstrate how any mental activity occurs or is sustained. The explanation might include an idea of motivation which lies externally to the speaker, so-called 'extrinsic motivation'. In this case concept development might be explained as following the rewards given the speaker for his use of language and the punishment given for its 'incorrect' use. The student would be understood as 'negotiating' the 'correct' use of language by tacking from side to side in his speech. Although the student has developed what Vygotsky calls a pseudoconcept for the teacher uninterested in such explanation the student has responded to the motivation from the teacher and can use language 'correctly'. However, because the use of rewards and punishments cannot be based on an understanding of the relation of emotion to the use of speech for the development of the concept, the teacher who rewards may also punish not understanding how pain hinders mental

activity. In addition, the application of rewards and punishments to obtain the 'correct' speech behaviour is premised upon the assumption that emotions are simply those processes for which the response to the application of rewards and punishments is evidence. In other words the evidence the teacher has for what he understands as mental development or the development of the concept is constituted by the emotional responses to rewards and punishments for the 'correct' or 'incorrect' use of speech. Students can 'rote' learn in this way and learn to say the 'right' thing to win the approval of the teacher, but extrinsic motivation does not begin to help explain what word use might mean to the student. Moreover the spoken transaction between the student and teacher cannot be called explanatory nor a dialogue. A further explanation might be offered which incorporates the development of the concept through its meaning and sense as suggested earlier, enlisting the teacher who formerly understood the mental development of the student solely in terms of the administration of rewards and punishments. In this case an explanation of concept development can advance from the meaning to the sense of particular word use where 'sense' is understood as the process of the interiorisation or internalisation of word use through egocentric and inner speech and even as its incorporation into the nonverbal narrative, as explained by Damasio. If the 'meaning' of an utterance or statement is the public or formal use of language to connote or denote, 'sense' is the meaning of the utterance or statement for the individual and with regard to his particular circumstances or context as well as background knowledge and assumptions and his own emotional life. The notion of 'sense' has wide explanatory power. It can be used to explain inner speech as a stage in concept development and the evidence for this in the incomplete use of language or the use of speech to indicate the partial development of 'meaning' and hence the pseudoconcept. Conversation is made from 'sense' even as a truncated form of 'meaning' and having a 'sense' of some event or fact may be regarded as sufficient

for normal day to day purposes. In all cases this explanation has incorporated Vygotsky's concern with 'sense' as fulfilling the role or function he also sought in 'emotional experience' as the unit of analysis. I indicated that this was also the view of Yaroshevsky. But although this account of concept development includes the explanatory role of 'sense' conceived as equivalent to 'emotional experience' it is still only an incomplete account because it understands emotions as passive in their relation to the use of speech in concept development.

9.8 Emotion function in concept development

The development of the scientific concept requires explanation. Monologic statements and reading can augment the development of the concept during or after the beginning of a dialogue but as Vygotsky's evidence for the zone of proximal development conclusively indicates, the scientific concept cannot develop independently of dialogue. But even if the role of dialogue is included with what has been introduced as the 'meaning' and 'sense' of word use and 'sense' as understood as undertaking the role of 'emotional experience', the explanation of concept and mental development is still incomplete. If one understands 'sense' and 'emotional experience' as passive emotion then the explanation of concept development is incomplete. Passive emotion effectively means that a dialogue has been understood in terms of interaction and 'turn taking' where the speech of one or other speaker extrinsically motivates speech. I have argued that this cannot begin to help explain concept development. Moreover explanation in terms of passive emotion conceives of social transactions as interactions and not as 'social' in the human and cultural sense of the word. When the relationship between two individuals is social and not merely an interaction, speech shared in a dialogue obtains the development of the scientific concept by a causal transition or transformation of passive to active

emotion or motivation. The dialogue obtains this transformation because it enlists active emotion in a social relation. This relation is social because biologically passive emotion has been transformed into active emotion or the motive to speak through dialogue. Active emotion or motivation is therefore a phenomenon of dialogue only when dialogue is the means of concept development, or more particularly, the development of scientific or explanatory concepts. So far I have argued that word use, considered alone, does not account for concept development, that 'sense', even if understood as 'emotional experience' and as the unit of analysis Vygotsky researched in his last writings, does not account for concept development if it is conceived as passive emotion and that dialogue does not complete the explanation if it is conceived as turn taking or as extrinsically motivated. I have attempted to explain how dialogue for the development of the scientific concept is shared and is social only when the speakers are motivated to speak during the explanation of the concept and again only when, in the course of the development of the scientific concept, passive emotion is transformed into active emotion or motivation or more correctly, the motive to speak. This motive to speak may be called speech motivation. There is no speech motivation outside a dialogue, hence no properly called 'interactions' of the classroom can be the means of mental development. Mental development or the development of the scientific or explanatory concept follows the use of speech in a dialogue and this dialogue is social only because it represents the external factor which caused the transformation of passive to active emotion. This process might be understood as the socialisation of emotion. A closer look at the process of the transition of passive to active emotion may make the explanation conclusive. Vygotsky has explained the relation between scientific concepts and spontaneous concepts as complimentary, as reciprocal in their development, mutual and as inclusive. The scientific or explanatory concept cannot develop without the enlistment of spontaneous concepts. Spontaneous

concepts, exactly like inadequate ideas as explained by Spinoza, are obtained from the process of generalisation. In generalisation different sensory experiences are brought together or classified by some inexact or exact criterion. Vygotsky demonstrated a similar process in the development of the complex from ‘heaps’ to ‘chains’. When any number of different, particular sensory experiences, are classified by the use of a word, the word has augmented the development of the spontaneous concept. For example, the word ‘red’ might be used on the occasion this or that colour is observed, or the word ‘cat’ might be used to refer to this or that animal. These references may not always be successful and might include a small dog, but the ‘sense’ of the word ‘cat’ may be sufficient for most purposes though the development of a scientific or explanatory concept may encourage a return to the use of the word ‘cat’ in order to establish its use in the development of the scientific concept of ‘cat’. The word ‘stone’ as referring to one of a multitude of stones is a generalisation and the process of generalisation is the spontaneous concept. If by way of illustration we suppose the teacher is explaining the concept of gravity to a student for the first time, it can be assumed that the public meaning of the phrase ‘theory of gravity’ has no personal meaning for the student but has only the meaning of a badge, a title, an indication of what it represents and betokens. In beginning an explanation of the concept the teacher must enter into a dialogue with the student. I have already established the significance of the social relationship of the dialogue, so though the fact of dialogue is an essential component of everything that follows, for the purposes relevant to explaining the development of the scientific concept, the central concern here is emotion function and its relation to the process of concept development. The teacher may pick up and drop a stone and refer to the stone in beginning to give an explanation of the scientific concept of the theory of gravity. The student may do the same or they may discuss, even in a casual manner, dropping or throwing stones and what follows when stones are dropped or thrown.

The conversation may advance to a consideration of different types of stone and the sensory experience of handling, dropping and throwing stones. As this conversation advances, the spontaneous concept, represented by the use of the word ‘stone’, can be enlisted in the explanation of the concept of gravity. Hence the spontaneous concept or generalisation of experience represented by the use of the word ‘stone’ includes its sensory attachment to reality, those sensory perceptions which both fall below and occasionally rise above the level of consciousness. But the spontaneous concept has innumerable associations for teacher and student, some, as suggested are immediate and sensory, others are related to the acts and occasions of throwing stones, pitching stones across a river, walking on a stony path or beach, or to names like Rolling Stones or Stone Roses and their music. The public meaning or personal sense of the word ‘stone’ is not given in the word but in experience and this is the experience, including background mood or temperament of passive emotion. This generalisation of experience represented by the use of the word ‘stone’ is incorporated through the dialogue shared by teacher and student explaining the trajectory of falling and thrown stones. As the spontaneous concept is harnessed through the dialogue to the development of the scientific concept of gravity and the use of speech for an explanation of the scientific concept itself harnesses references to ‘stones’, the passive sensory and hence passive emotional significance of the spontaneous concept is mobilised in the development of the scientific concept. The passive emotion of the spontaneous concept, its ‘sense’, its mobilisation in the nonverbal narrative, is transformed into active emotion during the course of the development of the scientific concept. It is transformed into active emotion and becomes motivational because the dialogue, necessary for the explanation and hence development of the scientific concept, transfers the passive emotion of the spontaneous concept into the explanation of the scientific concept as the speech for the spontaneous concept becomes the speech for the scientific concept in the

dialogue. Since this transition is not solely an increase in the activity of the passive emotion or an increase in excitement, but a transformation of the passive emotion and the transformation arises externally to the passive emotion of the spontaneous concept, the emotion becomes an active emotion just as it becomes a social emotion and the origin of a social relation. Where dialogue is not used to explain and hence develop, there is only 'social' interaction. There is no mental, emotional or social development in 'social' interaction. Biological interactions between animals who have no speech for explanatory dialogue can not serve to explain human mental, emotional and social development. Because the development of the scientific concept entails dialogue this process of the transformation of passive to active emotion, the process of the socialisation of emotion, is impossible without the dialogue for explanation. Hence it is to the development, not of the spontaneous concept but of the scientific concept, that the cause of the transformation of passive emotion into active emotion and its social function is traced. As the speech for the explanation of the scientific concept is interiorised through egocentric and inner speech and is melded into the nonverbal narrative, the transformation of passive emotion into active and social emotion is equivalent to developmental changes in 'emotional experience' as understood and explored by Vygotsky in Problem of the Environment. The explanation for the transformation of passive to active emotion suggested here represents an explanation of the internal dynamics of 'emotional experience'.

The function of speech is not solely in the development of the scientific concept and the function of emotion is not solely in the simultaneous motivation of that development. The internalisation of speech for the development of the scientific concept into the nonverbal narrative represents its embodiment, but not only its

embodiment into the previous emotional and homeostatic state of the body, its viscera and nervous system, but also the internalisation and embodiment of the excitement of the dialogue itself and its degree of vitality and animation. These too are internalised into 'emotional experience'.

Because the transformation of passive emotion to active emotion occurs across the physical space that separates individuals, that physical space is the non-social space for the interactions of biological organisms and not the cultural context of social relationships. Only where speech is used in a dialogue for the explanation of a scientific concept, and where speech is thereby the cause of the transformation of passive to active emotion can learning, as Vygotsky insists, be the cause and not the consequence of development. Moreover when learning is the cause of mental development it is simultaneously the cause of emotional development and the origin of social relations. That is to say, the inverse, reciprocal relation of scientific to spontaneous concepts and their development through speech, is exactly simultaneous with the transformation of passive to active emotion and hence the creation of social emotions and the substitution of biological interactions by human social relations. Although 'mental', 'emotional' and 'social' developments can be separated out under analysis and regarded as different 'forms' or 'types' of development the attempt to explain their developments separately would hinder understanding and impoverish explanation. For example, notions of 'extrinsic' motivation and systems of rewards and punishments are psychologically inconsistent with the development of what Vygotsky named 'higher mental functions' and with their emotional and social occurrence. Artificially creating excitement of passive emotion by physical activity such as handclapping, jumping, skipping and singing, as a preliminary to learning for the development of higher mental functions is entirely

unrelated to motivation and hence development. Hence also the relation of teaching to learning conceived as instructional, didactic or expository and for the purposes of 'instilling', 'inculcating', 'disciplining' and 'training' is not a relation between speakers in an educational dialogue. Shored up by the prerequisite of silence and the authority to enforce silence, teaching as instruction is a form of monologue. Dialogue is engagement. It fosters the expansion of spontaneous and scientific concepts and hence of explanation. It has its own discipline intrinsic to the active emotions of enjoyment and happiness and to the love of learning.

9.9 Social motivation

I have attempted to explain not only why dialogue is necessary for the use of speech in the development of the scientific or explanatory concept but how dialogue, and not speech considered in isolation, is the means of the transformation of passive to active and hence motivation and social emotion. I have demonstrated why active emotion is itself motivational and hence why motivation exists in social relations and not in interactions. Interactions are nothing more than changes in behaviour caused by the passive emotional responses to rewards and punishments. These changes cannot be 'instilled', 'inculcated' or 'trained' except through further rewards and punishments. Since in the biological explanation there is no conception of an 'inner', mental life and of its emotion as anything but the observable evidence of training or responses to the stimulus of actual or potential rewards or punishment, motivation can be understood only as the response of passive emotion to some external stimulus. This conception of motivation as extrinsic and as maintained by hierarchical layers or levels for the administration of rewards and punishments cannot explain the conditions for the autonomous motivation of this or that individual. These conditions are social and they are understood as the consequences for

mental, emotional and social development, of the continued development of scientific or ‘explanatory’ concepts and of the further and sustained engagement, through dialogue, discourse, conversation, and even monologue, with the public meaning of the varieties of every aspect of culture and civilisation.

The dialogue is the origin of motivation for both speakers if the dialogue is the means of mental development. That is to say the development of the scientific or explanatory concept, during the course of its development, causes the passive emotion of the spontaneous concept, to undergo the transformation to active emotion for both speakers. This transformation includes the ‘transition’ or increase in psychophysical activity described by Spinoza (Eth. III. 11). The development of the scientific concept takes a finite period of time. The teacher and student are engaged in the dialogue until the student is able to use language relevant to the development of the concept and its explanatory power independently. Because the development of the concept continues for as long as the transformation of passive to active emotion motivates the speech for its continued development, dialogue continues until the explanatory power of the scientific concept or theory is exhausted. A scientific concept or any explanatory theory must be able to explain the objects or events relevant to the concept or theory. The objects or events explained by the theory are its data. Conversely the data corroborates the theory or is evidence for the explanatory power of the theory. The objects or events thus explained become part of theoretical perception of all objects or events of experience. The explanatory power of the theory or concept and hence the speech for it, is exhausted when it can no longer explain the data or objects relevant to the theory or there is no data or evidence to corroborate the theory or concept. Because the scientific concept or theory develops only inasmuch as the speech for its development in the dialogue is

motivated, the progress of the development of the concept and its explanatory power, that is, its power to transform public meaning through 'sense' into personal meaning, makes meaningful the objects of experience when these are simultaneously theoretically and emotionally saturated. If the final form or prolepsis of the concept is understood as included within the emotion function, the theoretical saturation of perception is motivated by the emotional saturation of experience. This relation of the scientific and spontaneous concepts of Vygotsky's psycholinguistic theory of concept development with his plans for a theory of emotion exhibits the explanatory significance of Vygotsky's theories for Damasio's notion of 'extended consciousness' and possibly for neuroscience in general. A complete account of consciousness is impossible without including an explanation of the theoretical and emotional saturation of perception. That is why Vygotsky's explanation completes Damasio's account. Moreover Damasio's biological account of the emotions is brought to life only in the explanatory environment of Vygotsky's psychology. Interactions between core consciousness "accounts of ongoing relationships between organism and objects" and "a consistent set of previously memorised objects pertaining to the organisms history" may explain the "capacity to be aware of a large compass of entities and events" in 'extended consciousness' but "that critical gift called language" (Damasio, 2000, pp 197-198) marks the difference between the biological 'life' of extended consciousness and the potential "to enjoy that life of the mind, which is defined by understanding" (Eth. IV. App. 5). It is surely true that "a man is bound to be a part of Nature and to follow its universal order; but if he dwells among individuals who are in harmony with man's nature by that very fact, his power of activity will be assisted and fostered" (Eth. IV. App. 7).

The relation of teacher to student in a dialogue is maintained while the speech for the development of the concept is motivated by the emotional transformations that make possible that very process of development. Motivation is not explained by the process of development itself but by the transformation of emotional experience, and this process can continue for as long as the speech for the development of the concept is used for the prolepsis of the concept, its final form and the union of the public meaning with its personal meaning. The student will therefore be motivated to speak only for as long as the development of the concept increases mental activity both for the development of the concept and its accommodation to the conceptual apparatus of the student's own mental life, background knowledge, worldview, itself already emotionally saturated. Hence prolepsis is a motivational phenomenon. It is not intrinsically a private mental phenomenon but a phenomenon of motivation, active emotion and hence of social emotion and social relations. The teacher maintains the speech motivation of the student through the continuous development of the concept and the mental life of the student. At every stage in the dialogue where the student has been motivated to use speech to explain some part of experience the teacher has expanded the student's speech for the development of the concept by demonstrating the range of explanation by the use of language for that concept or theory. In explaining the concept the teacher's own conceptual development, both of the concept, or theory and of the use of language in its explanation, may continue and expand, and this development of the concept may itself motivate further speech in a dialogue with the student. But principally, authority consists in the teacher's ability to mobilise the speech of the student. It is the motivation of the student to speak which becomes the means of expanding powers of comprehension, of understanding, the interiorisation of speech for the concept, and the increased psychophysical activity and hence well-being and happiness of

the student. This increase in activity, of active emotion or motivation is social and the social emotions sustain this activity and its means.

Theoretically, social emotions are concepts. The patterns of social relations that determine these emotions are developmental and motivational and it is not possible for there to be social relations or concepts of them which are at variance with the mental and hence emotional development of an individual. Mental and emotional development or education arises at the interface of emotion and speech, or more broadly, from the complex relation of biological to cultural phenomena. The relation of biological to cultural phenomena is obtained in educational development, and the unity of mental and emotional development is the practical determinant of teaching standards. Mental development is not explained in biological terms alone or as the result of interactions between individuals, nor in social or political terms alone or as the work of policy but solely in the explanatory language of educational processes. In offering an explanation of the means of concept development through speech motivation I have suggested that the emotions engaged must be regarded as evidence of human social relations. Although biologists use the word ‘social’ to describe these ‘relations’ as ‘interactions’, the biological use of this word cannot be equivalent to the meaning the word has in ordinary language. Social emotions are sustained for as long as is the dialogue for mental or concept development. Social emotions are the form taken by active emotions or motivation when the dialogue for mental development motivates. The social emotions or the concepts of them are simultaneous with the conditions for mental development. Sharing speech in a dialogue and using classrooms as places where students meet to converse, discuss, debate, argue, lecture, question and listen and yet not sit in silence, just where explanation is essential for development, where learning is the cause of

development and not its result, will dictate and determine these social relations, emotions and concepts of them. Social norms and concepts of them do not pre-exist social relations and neither can ethics and social norms be conceived as forms of culture independently of the facts of nature. Therefore there are no supernatural concepts.

Result

In this chapter I have explained how Vygotsky's researches into the unit of analysis indicated how his last works converged on a theory of emotion and motivation. In completing this I have introduced the material relevant to the first part of research Question 3. I have demonstrated how the relation of Vygotsky's psycholinguistic theory of concept development to Damasio's Neo-Jamesian and neuroscientific theory explains speech motivation and in this introduced the material relevant to the answer to research Questions 3 (page 71) and 4 (page 68). Finally I have explained how the emotion function motivates concept development and how in discovering the relation of explanatory or scientific theory to the objects of the environment this relation is at once a social phenomenon where concepts of it are entirely determined by the demands of education itself. That is I have shown 'extended consciousness' arises only in the dialogue for scientific or explanatory concepts. In this conclusion I have completed the answers to research Question 3 and resolved the principal problem posed in Question 4.

CHAPTER 10: VALIDITY

Introductory survey

In this chapter I consider the validity of the argument for the thesis, review the overall structure of the argument, its coherence and credibility.

10.1 Argument

The thesis is that Vygotsky explored Spinoza's Theory of Emotion to develop a theory of motivation relevant to his psycholinguistic theory of concept development. The argument for the thesis is made from the evidence of Vygotsky's unfinished monograph on the Theory of the Emotions, his objections to the Jamesian theory of emotion and the solution to those objections suggested by the Neo-Jamesian neuroscience of Damasio. The form of the argument may be regarded as the relation of terms in which Spinoza's philosophy is the middle term and the psychology of Vygotsky and the neuroscience of Damasio are one or the other of the major and minor terms. Vygotsky and Damasio each argue the relevance of Spinoza to their own field. In the overall argument of this thesis I confirm the completeness and application of the arguments for Spinoza's theory of emotion by Vygotsky and by Damasio. The interpretation and application of Spinoza's theory is confined to its relevance to psychology by Vygotsky and to neuroscience by Damasio and my argument respects these constraints.

In Theory of Emotion Vygotsky explores the results and applications of contemporary neuropsychology relevant to the explanation of the relation of lower mental functions to higher mental functions and in particular the relation of primary emotions to

secondary or higher emotions but he is unable to find a theory able to explain both primary and secondary emotions in any coherent relation. Vygotsky arrives at the conclusion that Spinoza's philosophy, especially because of its monism, has the potential to solve the problem unsolved by contemporary science. Vygotsky plans to test the explanatory potential of Spinoza's theory by subjecting it to analysis from the perspective of contemporary science. By this means Vygotsky expected to demonstrate how the empirical theory of William James would give a comprehensive account of the relation of higher to lower emotions, of secondary to primary emotions. But it does not. Had a Neo-Jamesian solution been available to Vygotsky he would have completed his argument, started in Theory of Emotion, for the relation of Spinoza's theory of emotion to the concept of motivation of Problem of the Environment and Thought and Language and its relation to his psycholinguistic theory of concept development. But there was no Neo-Jamesian theory advanced at that time. Hence Vygotsky was unable to complete Theory of Emotion. In short, if there had been a Neo-Jamesian theory, then Vygotsky would have completed Theory of Emotion. There was no such theory, therefore he did not complete his theory. I explored Theory of Emotion and listed Vygotsky's objections to the Jamesian theory.

Damasio has explained why his theory of neuroscience is not Cartesian and why his approach is Spinozist. His argument is similar to Vygotsky's. I note various authorities regard Damasio's neuroscience as the successor to Jamesianism and refer to it as Neo-Jamesian. I accept these claims as true and consolidate my assumption with reference to neuroscience research and conclusions testing a relevant part of Spinoza's theory of mind. The research into 'Spinoza's Conjecture' was conducted independently of the neuroscience of Damasio and can be regarded,

from the standpoint of the thesis, as corroborating Damasio's position with respect to Spinoza. It also offers an empirical and scientific corroboration of Spinoza's epistemology relevant to the thesis.

Therefore if a Neo-Jamesian theory is accessible, it can help to complete Vygotsky's argument started in Theory of Emotion and this I attempt. It would follow: if Damasio's Neo-Jamesian theory is adequate for the purposes of Vygotsky's argument then Vygotsky's project can be completed. Following Vygotsky's approach to the 'test of Spinoza's ideas' I set out a similar 'methodological test' to test the claims of the Neo-Jamesian theory against Vygotsky's objections to the original Jamesian theory. In addition the Neo-Jamesian theory of Damasio is itself Spinozist and in this sense Damasio's neuroscience offers Vygotsky more than he would have expected. Despite this advantage the purpose of the methodological test is not to corroborate the empirical reliability of Damasio's theory but its reliability as compared to Spinoza exactly as attempted in the case of the Jamesian theory in Vygotsky's analysis of Theory of Emotion. That is, the test concerned methodology only. It is shown in the result that Damasio's Neo-Jamesian theory resolves Vygotsky's objections to the Jamesian theory except in one respect. Damasio has omitted parts of Spinoza's argument and this represents a residual objection. I reintroduced the omitted parts of Spinoza's argument and work towards a solution from the perspective of Damasio. Meanwhile, approached from the perspective of Vygotsky the same residual objection can be resolved from the perspective of Vygotsky's own psycholinguistic theory of concept development. In consideration of this approach from the perspective of Vygotsky I have argued for the isomorphy of Spinoza's concepts of 'adequate' and 'inadequate ideas' with Vygotsky's 'scientific' and 'spontaneous concepts'. Moreover I argued for the equivalence in function of

Spinoza's concept of 'common notions' with the function of speech in Vygotsky. I have also demonstrated the isomorphy of Spinoza's concept of 'perfection' with Vygotsky's concept of 'final form'. I have shown that these are functionally equivalent forms of concept prolepsis. The resolution of the problem of omissions from Spinoza is precisely the point at which the psychology of Vygotsky and the neuroscience of Damasio are relevant to one another. At this intersection of their theories and their shared interest in Spinoza is revealed what might be called the 'function of emotion' of Vygotsky's unit of analysis, complete with an explanation of the internal dynamics of 'emotional experience' and this conclusion would not be possible unless the interpretations of Spinoza by Vygotsky and Damasio were consistent with one another. The result is consistent with the evidence for it. I suggest that the argument for the thesis is valid. The validity of the argument depends upon the accuracy of interpretation of Spinoza by Vygotsky and Damasio and that each interpretation is consistent with the other. I suggest I have demonstrated that this is the case since if this were not the case the argument would not have obtained an adequate result in Chapter 9. The argument for the thesis is explanatory and theoretical.

It is conceivable that subjects prepared for fMRI scanning, divided into a dialogue pair and either a single subject speaking to himself or giving instruction, would show in the dialogue pair greater activity in those brain centres that relate cognitive activity with speech and pleasure than would the single individual or one individual giving instructions or reading to the other.

10.2 Credibility

Spinoza's theory is not historically regarded as an empirical theory. Vygotsky's psychology and Damasio' neuroscience are empirical theories. Vygotsky's argument for a 'test' of Spinoza's theory against the science of the day was intended to test the 'empirical' theory of emotion. This is certainly possible if one discards the traditional idealist prejudice that Spinoza's theory is a masterpiece of rationalist philosophy. Even if Spinoza's philosophy is not empirical in the broadest sense or in the sense in which he explains the higher order 'knowledge of the second kind', nonetheless, those concepts of Spinoza which can be treated as functionally equivalent to certain concepts of Vygotsky's own theory can be regarded as having empirical content. My references to Spinoza were restricted to those parts of Spinoza's philosophy which were relevant to Vygotsky's interest in Spinoza. On the other hand Damasio has restricted his own references to those parts of Spinoza's philosophy where he shares an interest in an empirical account of the body. Hence the discussions of both Vygotsky and Damasio concerned those parts of Spinoza's theory which could be given an empirical treatment. In addition both Vygotsky and Damasio agree that Spinoza is a materialist. The credibility of the thesis concerns its discussion of methodology and not the truth or adequacy of Spinoza's philosophy.

10.3 Coherence

The coherence of the argument depends very largely on the coherence of Spinoza's theory and my following his own argument in making the case for this thesis. The theories of Vygotsky and Damasio are very different and notwithstanding their empirical interests as I have shown, each makes assertions concerning the philosophy of Spinoza with their own concerns in mind. Yet the result is coherent

across the argument for the thesis and the results, the function of emotion, speech motivation and the socialisation of emotion have credibility. Because of the systematic organisation of the Ethics and its logical strength, it is difficult to misquote Spinoza or to reconcile interpretations which vary very widely. References are made to Spinoza, principally to the Ethics, throughout the thesis and these references are followed out in that part of the thesis argument relevant to the problem addressed. The problems were raised after the review of the relevant literature and the research Questions raised by those problems are set out in work order to solve the problems of the argument in stages. In addition to the references to Spinoza, I have demonstrated how references to the primary sources of Vygotsky and Damasio are themselves coherent and all of these are coherent with the philosophy of Spinoza.

Result

In this chapter I have reviewed the validity of the argument and obtained a synoptic view of its coherence.

CHAPTER 11: CONCLUSION

Introductory survey

In this concluding chapter I place the result in its context. This is the psychological and historical context described by Yaroshevsky and includes Vygotsky's understanding of the place of his psychology in a wider perspective. I try to suggest that the result has some intuitive coherence with Vygotsky's psychology.

11.1 Considerations of Yaroshevsky

A main conclusion is the agreement of the result with the estimation of Vygotsky's plan for the Theory of Emotion by the Vygotsky scholar Mikhail Yaroshevsky. In considering the direction Vygotsky planned in the Theory of Emotion, Yaroshevsky suggested that "Vygotsky saw, better than anyone else, that the alternative to mechanistic and biological determinism in the scientific cognition of man was neodeterminism rather than indeterminism" (Yaroshevsky, 1989, p 312) and that this meant, after "Affirming the principles of sociodeterminism, historicism and systemis character", that "Vygotsky was the first to understand the dependence of the progress of ….psychology….on creating a general psychology as a methodology of the 'middle level', which would….become distinguishable as a special scientific subject" (Yaroshevsky, 1999, p 265). The 'middle level' reconciles the biological, and hence biological determinism in psychological explanation, that is explanation 'from below', with sociodeterminism, that is, explanation 'from above', and in this reconciliation obtains the causal relation of social with biological phenomena, expressed in a new causal determinism, Yaroshevsky calls 'neodeterminism'. People, their emotional lives and social relations and the creations of culture are all part of nature but the relation between natural history and human history is not

simple and uniform or continuous. Because verbal thought is "determined by a historical-cultural process" the use of sounds and gestures prior to verbal thought can be explained biologically. This does not mean that the sounds and gestures made by apes have no meaning, only that 'meaning' must be understood biologically. In the advance from the use of sounds, gestures or signals to verbal thought and word meaning "development itself changes from biological to sociohistorical" (Vygotsky, 1986, p 94) and it is this transformational change that has been the subject of this thesis. In citing the independent researches of Köhler, Yerkes and Learned in the use of speech sounds by chimpanzees, Vygotsky seeks to explain why the speech sounds are "not connected with intellectual reactions" and moreover that the "affective states producing abundant vocal reactions in chimpanzees are unfavourable to the functioning of the intellect" (Vygotsky, 1986, p 78). That is, in the case of chimpanzees, but also of all other apes, there is no causal relation of language, or any part of culture, to their "affective states". To express this concept in the language used by Yaroshevsky, there is no causal relation shown between biodeterminism and sociodeterminism. Efforts to argue that social phenomena can be explained in biological terms, as in say, social Darwinism, have no means of explaining mental phenomena, human relationships and creative culture except in terms of the pleasant or painful (rewards and punishments) interactions of organisms. Once one understands how the development of thinking is changed when it is mediated by speech, "we must consider it subject to all the premises of historical materialism" (Vygotsky, 1986, p 95) which is to say that the social phenomenon of speech has causal efficacy in relation to the origins of thought. But since thought "is engendered by motivation, i.e. by our desires and needs, our interests and emotions" (Vygotsky, 1986, p 252), I have attempted to explain the relation of motivation to speech. I have attempted to show that speech

obtains a transformation of the biological origins of motivation and that this transformation is possible only in speech for explanatory or scientific concepts and moreover in speech shared in the social relation of a dialogue. That is to say I have attempted a causal explanation for mental development by explaining the function of emotion in this process and I have tried to suggest that this conclusion is consistent with Yaroshevsky's understanding of the direction Vygotsky was taking with Theory of Emotion as I explained in Chapter 2.

11.2 The meaning of 'social'

A further main conclusion concerns the meaning of the concept of social emotions. This concept can be understood vaguely and the terms for it used inexactly. I have indicated that Damasio assimilates motivation to biological drives and regards, what he calls 'social emotions', as having a solely biological origin. All animal life exhibits "social emotions" and "you will find examples of social emotions in chimpanzees" (Damasio, 2003, p 46). Moreover, the reason "why some people become leaders and other followers…has little to do with knowledge" and everything to do with social emotions. Unlike Yaroshevsky and Vygotsky, Damasio does not notice any discontinuity between natural history and human history, between biodeterminism and sociodeterminism. The question is: Where is this discontinuity to be found? Darwin expressed the view that "the difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind" (Darwin, 1977, p 494) but he expressed this view largely in the context of his discussion of 'moral sense' or 'social instincts'. In his study of 'The Expression of the Emotions in Man and Animals' Darwin advanced an argument "to account for most of the expressions and gestures involuntarily used by man and the lower animals, under the influence of various emotions or sensations" (Darwin, 2008, p 33) and Paul Ekman has argued

that "…most now accept the evidence for universality…" of emotions and their expression (Ekman, 2008, p xxiv) because these emotions are "the product of our evolution" (Ekman, 2008, p 366). In agreement with Darwin and Damasio, Ekman says that "my work and that of others provide strong evidence for at least the facial expressions of anger, fear, disgust, sadness and enjoyment" (Ekman, 2008, p xiii). Ekman's photographs for this illustrates the same emotions described by Robert Plutchik (Plutchik, 2001, p 349) as primary emotions. Ekman "showed the pictures to people in Chile, Argentina, Brazil, the USA and Japan" and concludes "Contrary evidence, against Darwin's claim of universality, would have been to find that the expressions…were judged as showing another emotion…This never happened" (Ekman, 2008, p 377). Ekman, Plutchik and Damasio agree concerning the primary emotions and in this they agree that the primary emotions are the product of natural selection. But Darwin also adds that "…social qualities…the paramount importance of which to the lower animals is disputed by no one, were no doubt acquired by the progenitors of man in a similar manner, namely through natural selection, aided by inherited habit" (Darwin, 1977, p 498) and in Expression supplies photographs to illustrate the expression of secondary emotions including contempt, jealousy, surprise, upset and terror. This would appear to refute the Vygotskian thesis I have argued. It would seem to follow that secondary, social, emotions are simply the product of natural selection. However, Ekman's detailed commentaries for the anniversary edition of Expressions, continue, in the same order as the list above, with his own or expert remarks as follows: 'Darwin is wrong' (p 254), 'I disagree with Darwin' (p 256), 'I agree with Darwin that there is no facial expression for jealousy' (p 260), 'Darwin fails to differentiate' (p 285), 'The wrinkles were added' (p 297), 'Darwin and Duchenne leave out the importance…'(p 301). The photographs do not depict social emotions because Darwin, like Damasio following him, has no means of distinguishing between passive and active emotions. Instead Darwin does suggest a

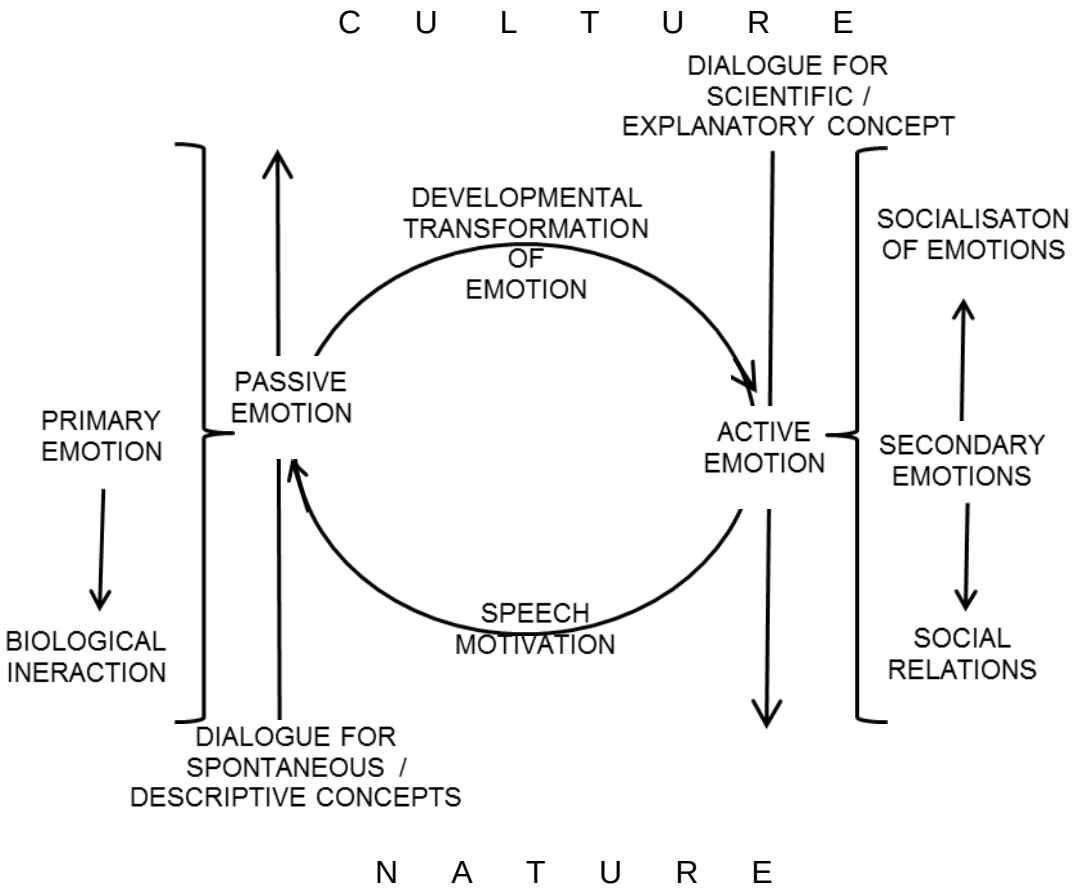
“much more powerful stimulus to the development of the social virtues, is afforded by the praise and blame of our fellowmen” (Darwin, 1977, p 499). Moreover Darwin adds “civilisation thus checks in many ways the action of natural selection (p 503, 501, 504) and finally Ekman concedes that where Darwin did give an explanation in terms of natural selection he also qualified this explanation, and hence weakens his argument, by appeals to the notion of the inheritance of acquired characteristics. Hence Darwin describes biological passive emotions and social interaction. He does not describe active emotions or social relations, nor does he have the conceptual apparatus for the explanation of their occurrences. The photographs can be regarded as evidence for the evolutionary universality of the passive or primary emotions listed by Ekman, Damasio, Panksepp and Plutchik but not as evidence for the higher, secondary and active emotions obtained only from an explanation of the causal interaction of social with biological phenomena. This is why Spinoza says “I have neglected the outward modifications of the body observable in emotions, such for instance, as trembling, pallor, sobbing, laughter, etc., for these are attributable to the body only, without any reference to the mind” (Eth. III. 58. Sch.). Spinoza offers an explanation of the social emotions that arise in social relations mediated by ‘common notions’. These higher emotions are here shown to be fostered by social relations and in particular in the educative dialogue for the explanatory concept. Though largely determined by the facts of nature and the evolution of the central nervous system in apes it is because chimpanzees are too excitable to develop speech that these animals cannot develop concepts. Aside from development as a result of the action of natural selection, they show no potential for mental, emotional or social development and are permanently confined to perception of the immediate physical environment and to involuntary ‘pleasure’ or ‘pain’ reactions and responses to its changes including the administration of ‘rewards’ and ‘punishments’ by human keepers. An understanding of the differences between the natural development of

apes and the cultural development of humans explains why this is the case and explains also why the relation of culture to nature in the case of human mental, emotional and social development is mediated by the processes of education, and nothing else.

11.3 Emotion function

With these two sections I have attempted to place the result of the thesis in some context and to show that I have attempted to follow out the direction Vygotsky was taking in his researches according to Yaroshevsky. In this section the diagrammatic illustration of the result may suggest that the result is itself immediately comprehended. The arrows suggest the inverse relation of spontaneous to scientific concepts central to the understanding of Vygotsky's psycholinguistic theory of concept development. The ascending arrow for spontaneous concepts represents the generalising of sensory and perceptual experience of the environment through speech. This sensory experience constitutes the successive layers of passive emotional experience of Damasio's protoself, core self and autobiographical self. This experience has a 'deep' structure to it as it is mediated by successive evolutionary developments of the nervous system. Part of this experience constitutes what Spinoza meant when he says "we know and feel we are eternal" (Eth. V. 23. Sch.) but other layers are constitutive of temperament and mood. These emotions also constitute our 'background knowledge' or worldview. Language for this knowledge melds with 'inner speech' in the nonverbal narrative. As we share the dialogue in speech for the explanation of a scientific or academic or explanatory concept represented by the descending arrow, the expansion of our worldview by the dialogue, the questions it prompts us to put and our own momentary reflections transforms the passive emotion of pleasure into the motivation to speak and hence

develop the concept and its deductive interrelations with other ‘concepts’ of our mental life. This process of speech enlisting emotion is represented by the circular motion of the arrows.



The circular motion suggests how the sense of speech for spontaneous concepts is transformed by the meaning of speech for the development of the scientific concept. As the spontaneous concept is developed in speech during its transformative incorporation into the development of the scientific concept, the circular motion expands. At the point the scientific concept arrives at the origins of sensory experience, the scientific theory is instantiated, it explains the data. But this explanation or instantiation is at once a mental and emotional transformation so that the theoretically informed perception of nature is simultaneously an emotionally motivated perception. The illustration of the ascending and descending arrows can

be doubled to properly represent the dialogue. To the right of the diagram social relations represents the simultaneous conditions of speech motivation.

Result

In this chapter I have explored the relevance of the result to Vygotsky's wider perspective and its value as an explanation of speech motivation.

BIBLIOGRAPHY

Bear, M. F., Connors, B. W., Paradiso, M. A. (2007) Neuroscience. Third Edition, Lippincott Williams and Wilkins

Brown, S. D., and Stenner, P. (2009) Psychology Without Foundations, Sage

Cromby, J. (2007) Integrating Social Science with Neuroscience: Potentials and Problems. In: *BioSocieties* vol. 2, pp 149-169

Cromby, J. (2005) The Morphogenesis of Subjectivity: between constructionism and neuroscience. In: Gulerce, Al, Hofmeister, Al, Staeuble, I., Saunders, G. and Kay, J. *Contemporary Theorising in Psychology: global perspectives*. Ontario, Captus Press pp 291-299

Damasio, A. R. (2010) Self Comes to Mind: Constructing the Conscious Brain, Heinemann

Damasio, A. R. (2003) Looking for Spinoza: Joy, Sorrow and the Feeling Brain, Heinemann

Damasio, A. R. (2000) The Feeling of What Happens: Body, Emotion and the Making of Consciousness, Heinemann

Damasio, A. R. (1996) The somatic marker hypothesis and the possible functions of the prefrontal cortex. *Philosophical Transactions of the Royal Society London B*. Issue 351 pp 1413-1420

Damasio, A. R. (1995) Descartes' Error: Emotion Reason and the Human Brain, Picador

Daniels, H. (2001) Vygotsky and Pedagogy, Routledge Farmer

Darwin, C. (1892/2008) The Expression of the Emotions in Man and Animals, Harper

Darwin, C. (1872/1977) The Descent of Man, Modern Library

Deleuze, G. (1988) Spinoza: Practical Philosophy, City Lights

Derry, J. (2004) Unity of Intellect and Will: Vygotsky and Spinoza. In: *Educational Review* vol. 56, No. 2. Pp 113-120

Ekman, P. (2008) Preface. In: Darwin, C. *The Expression of the Emotions in Man and Animals*. Harper pp xv-xxxvi

Elhammoumi, M. (2002) To Create Psychology's Own Capital. In: *Journal for the Theory of Social Behaviour* 32:1 pp 89-104. DOI: 10.1111/1468-5914.00177

Friedman, B. H. (2010) Feelings and the body: The Jamesian perspective on autonomic specificity of emotion. In: *Biological Psychology* vol. 84, Elsevier, pp 383-393

Fu, Danling (1997) Vygotsky and Marxism. In: *Education and Culture* vol. 14. No. 1, pp 10-17

Gal'perin, P. (1972) Introduction: Vygotskii, L. S., Spinoza's Theory of the Emotions in Light of Contemporary Psychoneurology. *Soviet Studies in Philosophy*. Vol. X, No. 4, pp 362-382

Harris, S., Sheth, S. A., Cohen, M. S. (2007) Functional Neuroimaging of Belief, Disbelief and Uncertainty. In: *Annals of Neurology*, Vol. 63, No. 2, pp 141-147

Harré, R. (1972) The Philosophies of Science: An Introductory Survey, Oxford University Press

Helm, B. W. (2010) Emotions and Motivation in Neo-Jamesian Accounts. In: Goldie, P. (ed) *Oxford Handbook of Philosophy of Emotion*. Oxford University Press, pp 303-323

Holzman, L. (2009) Vygotsky at Work and Play, Routledge

James, W. (1891/1952) Principles of Psychology, University of Chicago

Kline, G. L. (1952) Spinoza in Soviet Philosophy, Routledge and Kegan Paul

Kozulin, A. (ed) (1986) Vygotsky in Context. In: *Vygotsky, L. Thought and Language*, Massachusetts Institute of Technology, pp xi-Lvi

Langford, P. E. (2005) Vygotsky's Developmental and Educational Psychology, Psychology Press

Little, D. (1986) The Scientific Marx, University of Minnesota Press

Marx, K. (1887/1977) Capital, Vol. I, Lawrence and Wishart

Marx, K. (1894/1984) Capital, Vol. III, Lawrence and Wishart

Marx, K. (1859/1977) A Contribution to the Critique of Political Economy, Progress Publishers Moscow

Marx, K. (1845/1973) Holy Family. In: Bottomore, T. B. and Rubel, M. (eds), *Karl Marx: Selected Writings in Sociology and Social Philosophy*, Penguin Books, p 78

Magiolino, L., and Smolka, Al, (2013) How Do Emotions Signify. In: *Mind, Culture and Activity*, Vol. 20, Issue 1

Moores, A. (2010) Theories of emotion causation. In: Houwer, J. De. And Hermans, D. (eds) *Cognition and Emotion: Reviews of Current Research and Theories*, Psychology Press, p 1-37

Neu, J. (1977) Emotion, Thought and Therapy, Routledge and Kegan Paul

Peters, R. S. (1960) The Concept of Motivation, Routledge and Kegan Paul

Phaf, R. H. and Rotteveel, M. (2012) Affective Monitoring: a generic mechanism for affect elicitation. In: *Frontiers in Psychology*, Vol. 3, http://dx.doi.org/10.3389/fpsyg.2012.00047

Plutchik, R. (2001) The Nature of Emotions. In: *American Scientist*, Vol. 89 pp 344-350

Prinz, J. J. (2012) Beyond Human Nature, Allen Lane

Ravven, H. M. (2003) Spinoza's Anticipation of Contemporary Affective Neuroscience. In: *Politics and the Life Sciences*, Vol. 22, No. 1 pp 70-74

Rey, F. L. G. (2009) Historical relevance of Vygotsky's work. In: *Outlines*, Vol. 1, p 59-73

Robbins, D. (1999) Prologue. In: Rieber, R. W. (ed) *Collected Works of L. S. Vygotsky*, Vol. 6. Kluwer/Plenum, p ix

Savan, D. (1979) Spinoza and Language. In: Grene, M. (ed) *Spinoza: A Collection of Critical Essays*, University of Notre Dame Press, p 60-72

Toomela, A. (2014) Methodology of cultural-historical psychology. In: Yasnitsky, A., Veer, R. van der, Ferrari, M. (eds), *Cambridge Handbook of Cultural-Historical Psychology*, Cambridge University Press, pp 101-125

Veer, R. van der, and Valsiner, J. (1991) Understanding Vygotsky: A Quest for Synthesis, Blackwell

Vygotsky, L. (1933/1999) The Teaching About Emotions. In: Rieber, R. W. (ed) *The Collected Works of L. S. Vygotsky, Vol. 6, Scientific Legacy*. Kluwer Academic / Plenum Publishers, pp 69-235

Vygotsky, L. (1934/1986) Thought and Language, Massachusetts Institute of Technology

Vygotsky, L. (1978) Mind in Society: The Development of Higher Psychological Processes, Harvard University Press

Vygotsky, L. (1987/2004) The Problem and the Method of Investigation. In: Rieber, R. W. and Robinson, D. K. (eds) *The Essential Vygotsky*, Kluwer Academic / Plenum Publishers, pp 33-42

Vygotsky, L. (1982/2004) The Historical Meaning of the Crisis in Psychology. In: Rieber, R. W. and Robinson, D. K. (eds) *The Essential Vygotsky*, Kluwer Academic / Plenum Publishers, pp 227-343

Vygotsky, L. (1934/1994) The Problem of the Environment. In: Veer, R. van der, and Valsiner, J. (eds) *The Vygotsky Reader*, Blackwell, pp 338-354

Vygotsky, L. (1998) Early Consciousness and its Relation to Environment and Body. In: *The Collected Works of L. S. Vygotsky*, Vol. 5. Kluwer Academic / Plenum Publishers, pp 232-234.

Wolf, A. (1966) Correspondence of Spinoza, Cass

Wetherell, M. (2012) Affect and Emotion: A New Social Science Understanding, Sage

Yaroshevsky, M. (1989) Lev Vygotsky, Progress Publishers Moscow

Yaroshevsky, M. (1999) Epilogue. In: Rieber, R. W. *Collected Works of L. S. Vygotsky, Vol. 6, Scientific Legacy*. Kluwer Academic / Plenum Publishers, pp 245-266

Yovel, Y. (1989) Spinoza and Other Heretics: The Adventures of Immanence, Princeton University Press

Zavershneva, K. (2014) The Problem of Consciousness in Vygotsky's cultural-historical psychology. In: Yasnitsky, A., Veer, R. van der, Ferrari, M. (eds) *Cambridge Handbook of Cultural-Historical Psychology*, Cambridge University Press, pp 63-97

Zinchenko, V. R. (2007) Thought and Word: The Approaches of L. S. Vygotsky and G. G. Shpet. In: Daniels, H., Cole, M., Wertsch, J. V., (eds) *Cambridge Companion to Vygotsky*, Cambridge University Press, pp 212-245