Plato's legacy: Relationships between cognition, emotion and motivation

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Psychologists feel at ease with behavior - they can observe it, classify it, even manipulate it quite successfully. But they have serious difficulties with mental phenomena that control and accompany behavior -- like thoughts, emotions, or action tendencies. As implied by the concept *mental* these processes occcur inside our head and are thus not directly observable. While we may get some glimpses from a person´s verbal report concerning current thoughts, feelings, or motives or from the effect of the central processes on the periphery, such as physiological symptoms and motor expression in face, voice, and body, we are always constrained by the need to infer the nature of mental activity (Scherer, 1992).

The nature of the mental processes has been an issue of central importance ever since man started to study the human mind. The first systematic effort was made by Plato. One of his major philosophical models - the tripartite structure of the soul - was not only a pioneering effort, it has influenced virtually every thinker interested in the human mind ever since. And it still exerts a powerful influence on the organization of theory and research in present-day psychology. In this, psychology seems to share the fate of Western philosophy. The eminent philosopher A.N. Whitehead is cited as follows: "The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato" (cited from Plato article in the Encyclopedia Britannica, p.538). Popper (1968, p. 162) notes: "Plato´s structure of the soul is characterized by an unstable equilibrium - indeed a schism -between its upper functions, reason and will, and its lower functions, the instincts or appetites. (It is interesting to note that Marx and Freud were unconscious Platonists. They were also anti-Platonists in accepting Plato´s scheme and inverting it, Marx by demanding the emancipation of the workers, Freud by demanding the emancipation of the instincts or appetites)".

This note argues that the Platonian distinction between cognition, emotion, and conation has outrun its utility and may, in addition to provoking futile debates, seriously hamper progress towards urgently needed integrative approaches to the study of mental activity.

Plato´s legacy and beyond

The most fully developed version of the doctrine is found in *The Republic*, Plato´s metaphysical analysis of the constitution of the ideal state. As shown in Figure 1, Plato postulated parallel structural models for the

[1] These notes summarize the introductory parts of keynote addresses at meetings of the Société Psychologique de Québec, Québec 1993, and the Assoziatione Italiana de la Psicologia delle Emozioni, Milano 1994. The remainder of the talk consisted of an outline of a nonlinear dynamic system account of emotion.

human soul and for the state, emphasizing 1) a rigid separation between the social classes and, correspondingly, the components of the soul, 2) the assumption of an antagonism between these components, and 3) the ethical supremacy of cognition and, correspondingly, the class of the philosopher/kings. Ryle (1949, p. 329) summarizes the model as follows: "As the Ideal State is a coordination or integration of three different classes, each with its own economic and political role, so the soul is an integration of three different parts or elements, each with a role proper to it in the conduct of personal life. All people have in them the appetitive or impulsive element, the element of thought and reason, and between these two, an element capable of curbing impulses and cravings and capable also of taking orders from thought or reason." The in-between element was called "thumos" which can be glossed as “a factor of spirited higher ideal emotion, manifested as resentment against infringements both by others and by our own appetites" (Encyclopedia Britannica, p. 536). It should be noted that this component of Plato´s model, later generalized to emotion or affect in general, was originally limited to this "watchdog function" in the service of wisdom and rational judgment. Personal well-being, according to Plato, required the harmonic, rationally coordinated functioning of all three parts or elements (just like justice was thought to require a regulated cooperation of the three classes).

This model was not universally accepted and drew strong criticism, even from Plato´s own students like Aristotle. A lengthy quote from Book III of Aristotle´s *On the soul* beautifully illustrates some of the problems with Plato´s tripartite model: "The problem at once presents itself, in what sense we are to speak of parts of the soul, or how many we are to distinguish. For in a sense there is an infinity of parts; it is not enogh to distinguish, with some thinkers, the calculative, the passionate, and the desiderative, or with others the rational, or the irrational;... " Aristotle then goes on to enumerate other faculties of the soul - the nutritive, the sensitive, the imaginative, and, in particular, the appetitive. "It is absurd to split the last mentioned faculty; as these thinkers do, for wish is found in the calculative part and desire and passion in the irrational; and if the soul is tripartite appetite will be found in all three parts." (Aristotle/McKeon, 1941, p. 596).

In spite of these and other criticisms, the doctrine of the tripartite soul held its ground and affected, implicitly or explicitly, many different philosophical systems across centuries of attempts to understand, and categorize, mental phenomena. In the 17th century, Descartes and Spinoza revolutionized philosophical thinking about mental processes. Descartes, while focussing on the dualism between mind and body, demonstrated in his *Traité sur les passions de l'âme* how the emotions are intricately intertwined with cognitions of events (see Descartes, 1970). Spinoza´s analysis goes even further in rejecting the tripartite soul - he argues that every affect, a modification of the body, has an idea as its counterpart. In this sense, for Spinoza feelings *are* ideas. Similarly, he maintained that all thinking is action, that all movement has its accompaniment in idea. It is ironic that even though Spinoza´s teachings negated any dissection of the soul, his term *conatus*, desire consciously directed toward some specific object (action tendency) has become the technical term for the appetitive, motivational part of consequent tripartite subdivisions of human mental faculties (see Spinoza, 1985).

In the 18th century, the age of enlightenment, rising interest in human nature and particularly mental capacity led many philosophers to speculate about the fundamental faculties of the human mind. Unlike Aristotle who had

postulated a large number of such faculties (see above), these scholars, mostly German philosophers in the period between Leibniz and Kant, reverted to the magic number three. Moses Mendelsohn (1755) was the first to posit understanding, feeling, and will (Erkenntnis-, Empfindungs- und Begehrungsvermögen) as the fundamental faculties of the human mind. Hilgard (1980) has traced the influence of the "mental faculty" models, in particular Tetens and Kant, on German and particularly American psychology.

Since people seem to like to think in threes, so the tripartite soul stayed with us till today. It seems to be the single most important classification principle in the field of psychology, judging from subdivisions in textbooks and professional associations, from journal titles, and from perceived affiliations. This is true despite the fact that the distinction may sometimes get overshadowed by a dominant ideology - as during the heyday of behaviorism, or in periods of cognitive imperialism.

The consequences for the study of emotion

Today these tripartite notions, emphasizing the separateness and even the antagonism between the presumed three components of mental functioning more often obfuscate than clarify important issues in psychology. The following examples are suggested to show the negative effects of an exaggerated distinction between these components:

- the controversy on the primacy of an "affective system" vs a "cognitive system" in emotion generation (the Lazarus-Zajonc controversy), a debate which turned mostly around semantic issues (see Leventhal & Scherer, 1987)

- the prevalent focus on the study of "cold cognition", often based on a few dominant paradigms and lacking ecological validity (see critiques by Anderson and Miller)

- the demise of the study of motivation, partly as an exaggerated reaction against the notion of innate motivational patterns, giving way to excessively cognitive "theories of action"

- the rise of a type of "social cognition imperialism", attempting to reduce many phenomena to the level social representation or social construction, where only cognitive mapping processes seem to count, to the exclusion of all biological bases of behavior (Harré, 1986)

The persistence of the distinction between the three components and the tendency to favor the cognitive component over the two others is all the more surprising since there countless examples in the literature that show the need of adopting an integrated, synthetic approach to mental functioning. Here are some examples:

1) The elicitation and differentiation of emotion depends on both cognition and motivation. Most classical philosophical treatments of emotion recognized - explicitly or implicitly- that emotion is generally produced by cognitive evaluation processes and involves the activation of important antecedent motives or goals (see Aristoteles, Descartes, Spinoza, Hume, but also early psychologists such as Stumpf). This line of thought was revived in the 60ies by the work of Arnold and Lazarus, although it did not have much immediate impact. It was not before the beginning of the nineties, when many different theorists independently developed "appraisal theories" of emotion, that this perspective gained general acceptance. One example is the author's *component process model* which postulates close interactions between cognitive, affective, and motivational processes for the antecedents,

the unfolding, and the consequences of emotion (see Scherer, 1984, 1986).

2) Cognitive processes are rarely free from affect. Freud was one of the first to show the powerful influence of affect on cognitive processes. Unfortunately the sectarianism of organized psychoanalysis has prevented a more widespread effect of Freud's ideas on general psychology. However, books like Rapaport's *Emotion and Memory* (1950), which is unfortunately only rarely cited, provided important empirical evidence for these notions.

Due to the powerful impact of Bower's network model (Bower & Cohen, 1982), a new field of research - mood and memory - has developed and is presently booming. A similar development has happened with respect to another domain of cognitive processes - judgment and decision making; here the work of of Kahneman and Tversky (Kahneman, Slovic, & Tversky, 1982) has been influential in demonstrating the way in which cognitive processing can be affected by non-cognitive factors, including affect.

Recent neuropsychological approaches, especially the idea of neural networks, may help to overcome the classic tripartite distinction - since in this kind of architecture there is little place for closed boxes called cognition, emotion, motivation. Damasio's (1989) memory model demonstrates such an integrated, dynamic approach.

3) Facial and vocal expression are not only affective in nature. It is not only the cognitivists who are to blame for the persistence of artificial boundaries between cognition and emotion. Tomkins' (1962) notion of innate affect programs, primarily affecting the facial muscles have led to an overemphasis on the face as expressing discrete and fundamental emotions. Yet the pioneers in this area have insisted early on that the facial muscles also express thought (Bell, Duchenne, Darwin), a notion which is almost totally neglected these days (although there is some empirical evidence, e.g. de Sanctis, Schaenzle). Scherer (1992) develops these notions in greater detail.

Given the popularity of photographs displaying prototypical emotion expressions, we need to remind ourselves that expression does not consist of a static configuration. Rather it is characterized by constant change. Scherer (1986, 1992) has argued that we need to study the ways in which face and voice express *both* the motivational and cognitive antecedents of emotion (appraisal results) *and* the functional adaptations (action tendencies) produced by the former. The argument is that such a *componential patterning* approach might be better suited to understand the complex interactions between different factors in the dynamic unfolding of emotion.

Suggestions

In consequence, it is proposed to drop the fruitless thinking in 3 boxes, which has impeded the adoption of a modern process-oriented approach to most mental phenomena of interest to psychologists. More concretely, we need to

1) move toward hypothetical constructs anchored in convergent operationalizations, rather than reifing concepts. *Emotion*, for example, may be a hypothetical construct from Western naive psychology - for which there might be no precise equivalent in many languages of the world (see van Brakel, 1994). If the extraordinary interpenetration of neural processes that are being discovered in the neurosciences is anything to go by, it is difficult to see why there should be more neatly separated systems on the psychological

level. This does not mean to encourage a new age reductionism. Psychologists will obviously need to continue to use high level, functional constructs such as perception/registration, feature analysis, meaning analysis (linking new information to existing structures by association, comparison, judgment, preferences, volition), action preparation and decision making, action execution, storage/structuring, autoregulation, etc. We should study these dynamically and in all their componential complexity: all have highly inter-related cognitive, affective, and conative aspects. Since these are difficult to disentangle one would need a good reason to try to do so. So far, this reason is not obvious.

2) move from a domain oriented approach to a process oriented approach, a) adopting a genuine time and change perspective, rather than paying only lip service to the process character of all mental functioning and going on happily to study static verbal state concepts; and b) looking at the interlinking of different functional systems over time, using a real systems approach rather than using "system" as a metaphor for what are really categories. Scherer (1993) has proposed to define emotion as "a sequence of state changes in all of five – functionally defined - organismic subsystems -- (the cognitive system (appraisal), the autonomic nervous system (arousal), the motor system (expression), the motivational system (action tendencies), and the monitor system (feeling) -- occurring in an interdependent and interrelated fashion (as compared to normal, more independent functioning of these subsystems) in response to the evaluation of a stimulus, an event, or intraorganismic changes as being of central importance to the major needs and goals of the organism". This approach places heavy emphasis on the notion of system or component synchronization or modal interlinking during emotion episodes. It can be argued that the apparent lack of empirical evidence of component covariation in emotion is partly due to different response characteristics of the systems concerned and the mixture of linear and nonlinear systems. There is promise in adopting concepts from nonlinear dynamic models to treat emotion as a turbulence in the flow of consciousness and make use of catastrophe theory to predict sudden changes in the nature of the emotional processes.

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Plato's tripartite structure of the soul

Components of the soul	**Glosses**	**Components of the state**
Cognition	Thought, reason, will. Considered rational judgment - the "good".	Ruling class. Philosophers, kings, statesmen, nobility. Interested in wisdom.
Emotion/Affect/Passion	"Thumos", anger or spirited higher ideal emotions, resenting infringements by others and lower appetites.	Warrior class. Soldiers, policemen, auxiliaries, men of action. Interested in practical distinction.
Conation/Motivation	Impulses, cravings, instincts, appetites. Multitude of clamant and conflicting appetites for particular gratifications.	Lower classes. Civilians, workers, peasants, slaves. Interested in enjoyment and gratification.