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## Vygotsky was mistaken about Determinism, Causality and Freedom

### Determinism and Causality

Lev Vygotsky (1932) summed up Spinoza's place in the history of the Psychology of emotions as follows:

“In a few words, we can define the true relation of Spinozist teaching on passions to explanatory and descriptive psychology of emotions, by saying that, practically speaking, this teaching, in solving the one and only problem, the problem of a deterministic, causal explanation of what is higher in the life of human passions, also partially contains *explanatory psychology*, retaining the idea of causal explanation but rejecting the problem of the higher in human passions, and *descriptive psychology*, rejecting the idea of a causal explanation and retaining the problem of the higher in the life of human passions. ... Spinoza's teaching contains specifically what is in neither of the two parts. ... The problems of Spinoza await their solution ... (The Teaching About Emotions, *LSV CW* vol. 6. p. 222)

I agree that “the one and only problem [is] the problem of an ... *explanation* of what is higher in the life of human passions,” but I cannot characterize scientific explanation as “*deterministic and causal*.” In the meaning which Vygotsky attached to ‘deterministic’ (which differs from the conventional, present-day English meaning), ‘deterministic’ is synonymous with ‘causal’. So while I more or less completely agree with Vygotsky's solution to this problem in Psychology, as far as it went in his own lifetime, ‘causal’ is not an appropriate characterization of it.

Hegel showed that causality is extremely limited in its explanatory capacity, because the invocation of causation leads to an infinite regress. *Efficient causes* are always of interest, but a phenomenon is only understood when it is grasped as a cause of itself (a *causa sui*), that is, the relevant process is seen to create and recreate the conditions for its own existence. But even then, explanation often takes the form of Reciprocity of cause and effect. Hegel (1831) grants that “to make the manners of the Spartans the cause of their constitution and their constitution conversely the cause of their manners, may no doubt be in a way correct,” but still explains nothing. But Reciprocity is as far as Causality can go. The understanding of a process as a *cause sui* means grasping it as a concept and usually incorporates an investigation of its origins and development. Vygotsky has pioneered such an approach to Psychology.

What caused the beaks on Darwin's finches to get longer over successive generations? Natural selection of random variations is not a causal explanation. The most fundamental explanatory scientific theory of biology is *not* causal. And what applies to natural evolution applies with redoubled force to social, cultural and personal development.

Why do I say that natural selection is not a causal explanation of evolution? Although nowadays, thanks to genetics and the Wave Function, it is possible to say that natural variation has something like a causal explanation (though not any *particular* variation), in Darwin's time, when he first posited the idea of natural selection, natural variation had no causal explanation; Darwin merely empirically observed that offspring resemble their parents. The idea of natural selection certainly makes evolution intelligible, but it is not a *cause*. The theory of evolution by natural selection shows how a genotype will evolve in some direction precisely if there is *no cause* causing it to develop in that or any other direction - it is not directional. Very many processes in Nature are made intelligible in this way, by the *absence* of a cause.

The definition of cause is extremely contested. Normally it is defined by a cause, *c*, always being followed by an effect, *e*, subject to various caveats, and some theory which establishes the causal correlation as essential. More precisely it can be defined something like this: a situation *c* is said to be the *cause* of situation *e*, if situation *c* is implicitly situation *e*. *e* may be conditional

upon certain other conditions for *c* to grow into *e* which are nonetheless inessential. Any particular claim that *c* is implicitly *e* relies on a certain concept of *c* and *e*. Generally speaking this implies that *c* and *e* are concepts within a relevant theory. Despite natural science's attachment to the idea of causality, there is nothing in the concept of causality which marks it as scientific rather than pseudo-scientific or altogether mystical. Astrologers will claim that your personality is caused by the alignment of planets, for example. And there are ways other than causality by means of which events may be made intelligible.

Whatever your definition of 'cause', human action is not caused. Marx's aphorism is incontrovertible:

"Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past." (Marx, *18th Brumaire*, 1852)

People "making their own history" means people, in whatever social position they occupy, taking action for reasons which are generally well-founded given the circumstances they find themselves in. The conditions in which you find yourself may mean that there is only one rational thing to do, but you still have to *choose* to do that, you don't have to. A defence of free will must also respond to the fact that one's needs and desires and the concepts by means of which one grasps them are among that which is given and transmitted from the past, but this still does not mean that human action is caused. It is merely subject to constraints.

Vygotsky is convinced in the reality of human freedom and in particular that the achievement of socialism coupled with the advance of science will realize or at least enhance that freedom. But human freedom is not coherent without a concept of free will. But how is this to be reconciled with an insistence on human behavior being the effect of external causes?

## Consciousness

The relation between a situation and a person's response is mediated by consciousness, whether that be conscious awareness or forms of conscious control that have been mastered and are invoked without conscious awareness. Consciousness is *not* obedient to natural law; it has a *natural basis* but it is not *determined* by natural law. People control their own consciousness by the *use* of artifacts which are given and transmitted from the past, but *how* they use these artifacts (which are part of the conditions inherited by future generations) is not determined by conditions or the artifacts themselves. It may be that a situation is such that the person's response can be predicted with 99% reliability, but the unpredictable 1% is not peripheral or of marginal significance but what is *essential* about human action and Freedom.

Note that the word "use" implies a free agent who uses. The correct observation that the materiality of the artifact is given independently of the consciousness of the agent, and thus subject to natural and social law, pushes back the element of volition but does not eliminate it.

Words like causality and freedom are meaningful not simply as descriptive of the world, but particularly as tools for our own action: how do we understand the world and how do we change it? How do I understand my *own* actions? I can understand the rash on my skin as the effect of psoriasis, but if I claim that my opinions or my actions are *effects* of external or prior causes rather than free acts of my own volition, then I commit a performative contradiction. To take *another* persons' consciousness to be the effect of causes, is to regard them as an object to be controlled and manipulated, and not as a rational being. My doctor or psychologist may with good reason regard my actions in this way, as the effect of external causes, but if I am brought before a judge for a crime, I can be committed to prison or a psychiatric ward according to whether I am regarded as a rational human being morally responsible for my action or not. Even when, as a result of reflection, I want to change my own behavior, I do not regard my behavior as caused by external forces - I take moral responsibility for it. If I become aware of how my opinions, actions or habits have been formed by external factors, then I can decide to change them or not. Analysis of consciousness by causality leads, at best, to an infinite regress.

## Philosophy and Psychology

So when Vygotsky (1932) claimed in his brilliant chapter, “Self-Control,”

“we can resolve essentially purely philosophical problems by means of a psychological experiment,”

he was mistaken. Psychological experiments cannot *resolve* purely philosophical problems, though psychological experiment can sometimes *expose* false solutions to philosophical problems, false because they trespass on the domain of empirical natural science.

Also, Vygotsky insists that thought cannot “directly affect the body” - an idea which he ascribes to “spiritualistic psychology” - but this is an observation which raises more problems for philosophy than it solves. In this expression, “thought” evidently means something other than “consciousness” and “thinking” because in the same article Vygotsky assigns an active role to consciousness and thinking in the formation of reactions (although once a form of behavior is mastered it can be carried out without conscious awareness). This chapter significantly advances the understanding and formation of the Free Will, but there are some flaws of a philosophical nature which need to be dealt with.

Vygotsky is ambivalent on the status of the concept of “free will” which he refers to as an “illusion,” while also saying that “Human freedom consists specifically of man’s ability to think, that is, that man is cognizant of the developing situation.” Vygotsky supports the idea that “freedom is the understanding of necessity,” and that generally freedom of the will develops from childhood as well as with the historical development of human culture. But I believe this explanation does not show how his theory of the formation of will is consistent with human freedom, with the consequence that he contradicts himself: at one moment condemning free will as an illusion, at another explaining its formation. I will go through the argument of the chapter in more detail.

A scientific conception of matter as “an objective reality, of existing outside of our consciousness ... existing independently from human consciousness and reflected by it,” (Lenin cited in Vygotsky 1929) is compatible with a conception of Free Will in the sense captured by Marx’s aphorism cited above. As Hegel pointed out, the will is free in its very concept, but the will only becomes genuinely free through the processes of phylogenetic, ontological, cultural and social-historical development. The freedom of the will cannot be characterized by any simple criterion, aphorism or definition. What Vygotsky helps us to understand is how free will develops in a natural human organism, obedient to the laws of biology, surely one of the most fundamental problems of the Free Will. The question of how free will develops notwithstanding the dominance of social and ideological structures in human life raises problems which go beyond the scope of Vygotsky’s work.

### Self-Control

The first element of Vygotsky’s theory of self-control is that “in voluntary action, we must differentiate two apparatus that are relatively independent of each other.”

- (1) “a conditioned reflex is *constructed*” - an internal change in the subject’s nervous system, and then at a later time:
- (2) “the actuating apparatus, that is, the functioning of the cerebral connection already formed in this way,” when the subject acts.

If we were to consider how an athlete or artist or mathematician achieves a particular feat, there are two phases: first a protracted process of training their bodies to respond to artificial stimuli in certain complex ways, and secondly the performance of the feat by the activation of the self-constructed bodily apparatus. In this second phase, the various forms of action have been mastered and are executed with conscious control, but without conscious direction of the individual reactions. (‘Consciousness’ includes those processes which, while not part of conscious awareness, can move into conscious awareness in response to events.)

A second important distinction Vygotsky makes is that between motives and stimuli.

(1) A stimulus triggers a conditioned *reflex* which has been trained and is part of (2) an elaborate system of interconnected stimuli and reflexes which constitute the internal form of a *motive*. Every form of action is directed and organized by some motive, and when conflicting motives arise, these apparatuses can be combined in complex ways to resolve the conflict.

When a subject is faced with a conflict of motives (e.g., needing to get out of bed but still wanting to rest), the subject will voluntarily introduce an artificial stimulus which they use to resolve the conflict (an alarm clock or telling themselves “I will get up on the count of 3, ...”).

These artificial stimuli which the subject uses to train and control their response to stimuli are provided by their social and cultural surroundings. Adults purposely direct the actions of infants in their care and in doing so introduce these stimuli. Later, children appropriate these same stimuli to “command” themselves. By school age, a child is able to exercise what must be recognized as free will and a significant level of control of their own behavior, while remaining culturally and socially dependent on the conditions of their existence, beyond their control.

“Freedom of will is not freedom from motives.” Yes, though the ability to *educate* one’s own motives is crucial to the attainment of a genuinely free will, something which may or may not be attained to some degree in the course of an adult life.

The nervous system is an elaborate system of stimulus-response reactions, a system which to a certain degree is ‘self-constructed’ under conditions not of the subject’s choosing. The human organism taken as a whole cannot be described as a stimulus-response object because through personal development people have constructed an elaborate system of stimulus-response apparatuses which mediates between the stimulus acting on the person and the person’s response. This elaborate system is the material basis of consciousness and identity. Thus, when a person responds either with conscious awareness or with an immediate, conditioned response, the laws of biology are not violated. Does this mean that consciousness (i.e., thought) *causes* the subject’s actions insofar as the action is executed with conscious awareness? All the natural scientific evidence points to the fact that thoughts cannot be *causes* of material effects.

However, it is impossible to describe this process without invoking a subject who *constructs* conditioned reflexes and *uses* auxiliary stimuli – tools and signs, voluntary acts. It seems from Vygotsky’s explanation that the subject which exercises volition in training its reactions and mastering them is itself an elaborate complex of conditioned reflexes which in infancy was deliberately trained by adults but increasingly took over its own self-construction within the context of ideological and social conditions outside of the subject’s control. ‘The self’ and ‘thought’ is a *different level of description of the same object* described in terms of conditioned reflexes and apparatuses of reflexes organized around motives.

So it appears that the self can at one and the same time exercise free will with “maximum freedom and completely voluntary acts,” *and* be obedient to the laws of biology. The higher psychological functions cannot be described, nor a causal explanation of the functioning of the formulated, without recourse to the language of voluntary actions, that is, free will. But Vygotsky demands not only an intelligible explanation, but a *causal* explanation of the life of the higher psychological functions. Is *this* possible without recourse to thinking *causing* behavior?

Although Vygotsky at times refers to free will as an “illusion,” he does not support the line, common among natural scientists, that consciousness merely *supervenes* on activity, that is, that consciousness is merely an *epiphenomenon* of behavior. Such approaches claim to explain human behavior without reference to consciousness, but this is not Vygotsky’s line. In his earliest contributions to psychology he proved that behavior cannot be understood without reference to consciousness, mediating between stimulus and response. Human behavior cannot be explained without recourse the language and concepts of psychology. Is such an explanatory theory *causal* though? Or does an adequate scientific theory of psychology need to base itself on *dialectical* conceptions of development and change?

## Thought and Matter

Thought does not exist outside of consciousness, that is to say, thought does not *exist*. By definition, everything that exists outside of consciousness is matter. Thought is the substance of subjective experience. An apple has mass and is subject to gravity like *all* material objects including neurons; my thought of an apple does *not* have weight and is *not* subject to gravity. When I recognize the face of an old friend in the crowd, hear my name mentioned in a busy room or realize that the number 621 is divisible by 9, I do not see or hear or think an arrangement of neurons - I see/hear/think artificial material objects outside of my mind. Further, I cannot coherently explain or describe the behavior of *other* people without reference to *their* consciousness. I cannot 'directly observe' their consciousness and nor can I 'observe' my own consciousness, or observe past historical events, quantum mechanical events or formative geological processes - all of which are nonetheless valid objects of scientific study.

The basic categories for explaining and describing human behavior are action and activity. 'Behavior', 'motives' and 'consciousness' are *abstractions from activity* which is the fundamental concept. The basic units of consciousness are *concepts*; concepts exist objectively in forms of human activity oriented around a shared motive; concepts exist in consciousness as systems of meaning united by a single motive. 'Concepts' form the *link* between psychology and social science.

Vygotsky refers to the elaborate, constructed nervous apparatuses as *motives*, and it appears that motives are the main molar unit of the nervous system:

“as motive, we understand a complex system of stimuli connected with the construction, formation, or selection of one of the reflex curves.”

So Vygotsky has given us a good indication of how the material substratum of consciousness in the nervous system is formed and transformed, a view which can be coordinated with conceptions of how consciousness appears to us subjectively and how it is manifested objectively in activity, because they share the concept of 'motive'. It is Vygotsky's genius that he has also given us experimental techniques to *reveal* this structure. These include observations of the children appropriating neutral stimuli in the solving of problems and the use of artifacts and forms of action which are introduced to them by adults as means of controlling their own behavior.

Even though consciousness can only be directly experienced subjectively, subjective experience cannot be scientific. The science of consciousness, not unlike the sciences of history and geology, relies on surmising the subject matter from objective traces given to the researcher in the observation of behavior. But these traces are not themselves the subject matter of the science. The intelligible explanation of historical processes entails surmising what can never be observed, and first-person reports of historical events are no more than evidence which the historian places alongside other evidence. Nonetheless, historiography relies on the plausibility of intelligible explanations of great historical changes in terms of mundane conversations and concrete events and seeks evidence of such events wherever possible. Likewise, the psychologist places the reports of subjective experience (including their own) alongside other evidence which is objective and verifiable.

On the other hand, a psychologist can no more claim knowledge of the network of reflexes making up a motivational apparatus than a historian can claim to know what was said in all those conversations and personal interactions which made up a past historical event; less so in fact. Likewise, Darwin could never claim to know just which mutations and which life events made up the evolutionary change in the finches be observed, let alone past evolutionary change.

Consequently, the *causal* explanation of activity which Vygotsky has given us has limited potential for the explanatory psychology of the higher mental functions. It is however suggestive of approaches to diagnosis of psychological problems and of possibilities for therapeutic intervention. Vygotsky's theory of motives as apparatuses of conditioned reflexes is important in making a consistent explanatory theory of the higher mental functions plausible without recourse to really-existing spiritualistic substances.

Nonetheless, in describing and explaining social processes or psychological processes, one cannot avoid the language of concepts. Likewise, one cannot avoid the language of *actors using* artifacts, people anticipating events, thinking about their reactions, forming concepts of their objects and having feelings. None of these forms of expression contradict the causal substance of human activity. But for example, an impending event cannot *cause* me to prepare for it, the sight of a juicy steak cannot *cause* me to steal it: consciousness always mediates between stimulus and response. And consciousness needs to be described and explained in its own terms.

## Summary

Vygotsky's chapter "Self-Control" is indeed a brilliant solution to the puzzle posed by the existence of free will in a material organism constrained by knowable laws of biology. In his work on child development, Vygotsky shows how an infant comes to acquire self-control and exercise free will at the level of the individual organism. In doing so Vygotsky completes the quest begun by Spinoza to transcend the causal psychology of the lower psychological functions and the descriptive psychology of the higher psychological functions, by sketching the basis for an explanatory psychology of the higher psychological functions. But it must be recognized that what he has produced is a kind of *link*. A full-blown scientific theory of psychology cannot be limited to the study of assemblies of conditioned reflexes any more than evolutionary biology could be limited to the study of genetic mutations and give up explanation of evolutionary events in terms of ecological niches, food chains, genetic diversity, adaptation, etc., or historians could eschew reference to historical events and confine themselves to discussing written and archaeological records.

Vygotsky has provided this link without recourse to any conception of an extramundane 'spirit' acting on the body from outside the material world. It has to be said though that no trend in modern science postulates any such spiritualistic theory. Other currents either avoid the mind-body problem altogether, concerning themselves only with neurological phenomena for which thinking is merely taken as a symptom of organic (mal)functioning, or conversely describe the neurological activity accompanying thinking with only pseudoscientific explanatory force, or alternatively, like Spinoza, ascribe to theories of mind-matter parallelism, or the supervenience of thought on material processes or see consciousness as an epiphenomenon of nervous processes. Making one's protagonist 'spiritualism' and one's solution causal determinism is misconceived.

## Further reading

See the *Stanford Encyclopedia of Philosophy* entry on "[Causal Determinism](#)." This is written strictly from the point of view of analytical philosophy, but may serve to show why any theory of determinism is far from easy to defend.

See my 2011 book "[Concepts. A Critical Approach](#)" for a comprehensive treatment of concepts.

My articles "[Matter and Consciousness](#)" and [Agency](#) deal with this question at length.

See my 2017 article on "[Hegel's Theory of Action](#)" which explores the problem of Free Will on a wider scope than individual autonomy and my recent article: [Spinoza in the history of Cultural Psychology and Activity Theory](#).

## References

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