REP article

**Title: Psychology, personal and subpersonal**

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**Article summary**

Explanations in psychology are described as personal when they attribute psychological phenomena to the person, as when we attribute beliefs and thought processes to each other, for example. By contrast, explanations in psychology are described as subpersonal when they attribute psychological phenomena below the level of the person, as occurs when scientists describe parts of the brain as representing or evaluating, for example. The practise of subpersonal psychology raises a number of philosophical issues: whether it is acceptable to attribute psychological phenomena to parts of persons, for example, and whether such attributions can yield any explanatory benefit. Even those who endorse subpersonal psychology do not necessarily agree about what this entails: there are several distinct ways of understanding the relationship between subpersonal psychology and personal psychology, which depend in part on how the ontological commitments of subpersonal explanations are understood.

**Main entry**

**1. Psychological explanation**

Our everyday explanations of people’s behaviour are personal, in the sense that they attribute psychological states and processes to the person. We say that a person has a memory of summer’s day, or that a person decides to buy a car, or that a person desires a quiet life, or that a person has a recurring thought, for example. In each case, the psychological state or process (e.g. memory, decision-making, desire, thought) is attributed to the whole person. But in scientific psychology some explanations are subpersonal, in the sense that they attribute psychological states and processes below the level of the person. Scientists might say that the fusiform gyrus in the brain recognizes faces, or that pyloric neuronsprefer a certain frequency, or that the early visual system detects edges, or that the auditory channel judges the sound to be coming from behind, for example. In each case, the psychological state or process (e.g. recognition, preference, detection, judgment) is attributed not to the whole person but to a part of their cognitive system.

Personal psychology is familiar to us from our everyday practices of explaining and predicting the behaviour of others: what is often known as ‘folk psychology’ (see Folk psychology). Subpersonal psychology, however, is a relatively recent scientific development. During the cognitive revolution in the 1960s, psychologists began to explore the mechanisms by which the mind processes information (see Theories of psychology). Using new methodological and experimental techniques, many facilitated by the science of computation, psychologists attempted to explain cognitive functions or capacities: how we perceive depth, understand language, and categorize the world, for example (see Functional explanation, Explanation §5). Their standard method was to decompose each psychological capacity into separate psychological sub-capacities, and then use psychological terms (e.g. evaluating, discriminating, representing) to describe the workings of each. This method produces subpersonal psychological explanations.

As an example of subpersonal psychology, consider the following explanation of a person’s capacity to perceive depth. The capacity is decomposed into a number of distinct tasks: (i) figuring out which points of each two-dimensional retinal image correspond to the same part of the scene, (ii) measuring the disparity between the corresponding points, and (iii) employing the disparity information to recover the three-dimensional structure of the scene. The first task, finding matching points in the two retinal images, might require looking for patterns of light intensity that indicate the edges of objects. This task can be further decomposed into the sequence of steps required to calculate the points at which light intensity is changing most rapidly. Once the visual system has estimated which points in the retinal image correspond to the same part of the scene, it can perform the second task, calculating the disparity between them. The third task, recovering the three-dimensional scene, can also be decomposed into distinct tasks: figuring out the separation distance between the two eyes, for example, and using gaze-angle to estimate fixation distance, then combining these figures with the disparity information to produce the three-dimensional description (see Vision §4).

Notice that each stage of the analysis, the states and processes are being described in psychological terms: measuring, figuring out, recovering information, estimating. These psychological terms are not being ascribed to the person, but rather to the visual system or its components, such as the primary visual cortex or the stereopsis module.

**2. Problems for subpersonal psychology**

Some philosophers have found the sorts of explanations offered by subpersonal psychology to be problematic. One objection to subpersonal psychology is that that describing parts of the person in psychological terms commits the *mereological fallacy*. This is the mistake of assuming that a term ascribed to a whole entity is therefore ascribable to one of its parts; e.g. assuming that because water is wet, there is some part (one of its atoms, perhaps) of water that is wet. Subpersonal psychology would indeed be committing the mereological fallacy if it assumed that because the person perceives depth, for example, there must be a part of the person that perceives depth. In the example in §1, however, subpersonal psychology does not ascribe depth perception to a part of the person: it ascribes other psychological states (figuring out correspondence points, calculating disparity, recovering information) to the visual system, which together explain the person’s capacity to perceive depth. As a result, subpersonal explanations like these seem to avoid committing the mereological fallacy.

A related objection claims that subpersonal psychology is simply wrong to ascribe psychological terms to parts of persons, regardless of whether or not it commits the mereological fallacy in the process. This objection claims that psychological attributes are just not the sort of things that can be ascribed to anything other than the person, and is often inspired by Wittgenstein’s claim that “Only of a living human being and what resembles (behaves like) a living human being can one say: it has sensations; it sees; is blind; hears; is deaf; is conscious or unconscious” (1953: §281); (see Wittgenstein, Ludwig Josef Johann (1889–1951) §13). According to this objection, describing parts of cognitive mechanisms as estimating, calculating, or inferring are wrong, just as describing tables or chairs in the way would be, because our psychological terms apply essentially to persons. But the cognitive revolution in psychology and related disciplines is built upon the discovery that parts of intelligent systems seem to function in ways similar to the intelligent systems themselves – in a way that tables and chairs don’t. Proponents of subpersonal psychology claim that this similarity is what justifies extending the use of our psychological terms to apply below the level of the person.

Both of these objections concern the application of psychological terms. Even if subpersonal psychology can defend its use of psychological language in describing cognitive mechanisms, there is still a worry about the explanatory worth of those descriptions. This worry grounds a further objection: that by attempting to explain psychological phenomena in terms of further psychological phenomena, subpersonal psychology will result in an explanatory regress similar to that noted earlier by Ryle (see Ryle, Gilbert (1900–76) §2). Proponents of this objection accuse subpersonal psychology of committing the *homunculus fallacy*: explaining the psychological capacities of persons by positing internal ‘persons’ with their own psychological capacities (see Language of thought §3).

If subpersonal psychology were to explain a person’s capacity to perceive depth, for example, in terms of the capacity that part of their visual system has to perceive depth, this would have the potential to create a regress and would not seem to be a satisfactory explanation. It is not obvious, however, that subpersonal psychology does generally attempt to explain a person’s psychological capacity by positing that a part of the person has that same psychological capacity. In the example of depth perception introduced in §1, for example, subpersonal psychology posits a range of lower-level psychological capacities, each different from the psychological capacity of the person that is being explained: a person’s capacity to perceive depth is explained by the lower-level capacities to figure out correspondence points, measure disparity, and infer fixation distance. Each of these in turn is explained by even lower-level capacities. The capacity to figure out correspondence points between the retinal images, for example, is explained by the capacity to locate the edges of objects, which in turn is explained the capacity to calculate the rate of change in light intensity. At some low-enough level, this can be explained in terms of the firing of binocular neurons in the primary visual cortex. At each level in the explanation, the psychological capacities become simpler until the explanation can be physiological instead of psychological. Subpersonal psychology thus attempts to avoid committing the homunculus fallacy, and the related regress, by positing a stepwise decomposition of more complex psychological phenomena into less complex psychological phenomena until psychological descriptions can be dispensed with entirely.

These objections to subpersonal psychology are *a priori*: they are objections to the form of explanations involved or the terms that those explanations employ. If it can defend itself against these objections, subpersonal psychology only demonstrates that its explanations ought not to be ruled out on purely conceptual considerations. Whether or not subpersonal psychology is the right way to understand the mind is a matter for scientific experiment and empirical discovery.

**3. The relation between personal psychology and subpersonal psychology**

Subpersonal explanations provide a novel explanatory framework to psychology, in addition to our traditional personal-level psychological explanations. There are a number of ways to understand the relationship between personal and subpersonal psychological explanations, depending in part on what one takes to be the ontological commitments of subpersonal psychology. One might think that even if subpersonal explanation doesn’t commit the mereological or homunculus fallacies, it still isn’t literally true: perhaps psychologists adopt subpersonal explanations as heuristics or useful fictions (see Fictionalism, Scientific realism and antirealism §3). This instrumentalist view of subpersonal psychology can be combined with different views of personal psychology. Dennett (1978) takes an instrumentalist view (at least sometimes) of both personal and subpersonal psychology: he thinks that both kinds of explanation are a matter of taking the ‘intentional stance’ (see Dennett, Daniel Clement (1942–) §1). McDowell (1994), on the other hand, agrees with instrumentalism regarding subpersonal psychology, but follows Davidson in thinking that personal psychology involves a special style of rational explanation that cannot be reduced to a mechanistic explanation (see Reasons and causes §1) see Davidson, Donald (1917–2003) §3).

An alternative to instrumentalism is to understand the theories of subpersonal psychology as true explanations that refer to genuine psychological states: internal states which literally possess psychological properties like representing, calculating, evaluating, etc. This realist view is often combined with a computational theory of mind, according to which the posits of subpersonal psychology are representational states which are transformed and manipulated by computational operations (see Mind, computational theories of). Some people claim that a computational theory of subpersonal psychology will also provide us with a computational understanding of personal psychology: Fodor (1975) proposes that some of the representational states of subpersonal psychology will provide a computational definition of folk psychological notions, such that having a belief, for example, will be defined as tokening a certain type of computationally defined representational state others (see Reductionism in the philosophy of mind). But the computational approach to subpersonal psychology can be neutral in this regard: it might be that none of the representational states posited to give a computational explanation of our psychological capacities correspond to any of our folk psychological concepts (see Eliminativism).

These different approaches to the relationship between personal and subpersonal psychology lead to a terminological confusion. In a sense, all the posits of subpersonal psychology can be thought of as subpersonal states in virtue of being states posited by subpersonal psychology, as opposed to the personal states posited by personal psychology. But those who propose to reduce personal psychology to subpersonal psychology claim that personal and subpersonal psychology pick out some of the same computational states, resulting in some states that are both personal and subpersonal. A different, and more common, usage of the term ‘subpersonal state’ is to refer to only those states posited by subpersonal psychology that aren’t also the posits of personal psychology: the states posited to account for depth perception in §1, for example. Unlike the posits of personal psychology, these states are not introspectible and can’t be used in general purpose reasoning. This use of the term ‘subpersonal state’ has much in common with Stich’s (1978) notion of subdoxastic states (see Unconscious mental states §4).

**See also:** Folk psychology; Functional explanation; Mind, computational theories of; Theories of psychology; Unconscious mental states

**Bibliography and further reading**

Dennett, D. C. (1969) *Content and Consciousness*. Routledge and Kegan Paul.

(Dan Dennett introduces the distinction between personal and subpersonal explanations, but remains largely neutral as to their ontological commitments.)

Dennett, D.C. (1987) *The Intentional Stance*. MIT Press.

(Dennett’s views on personal and subpersonal explanation become integrated with his instrumentalism.)

Drayson, Zoe (2012). The uses and abuses of the personal/subpersonal distinction. Philosophical Perspectives 26 (1):1-18.

(Zoe Drayson argues that the original purpose of the personal/subpersonal distinction was to distinguish between two kinds of explanation rather than two kinds of psychological state.)

Zoe Drayson (2014). The personal/subpersonal distinction. *Philosophy Compass* 9 (5): 338-346.

(An accessible overview of the different philosophical approaches to the personal/subpersonal distinction.)

Elton, M. (2000) Consciousness: only at the personal level. *Philosophical Explorations* 3(1):25-42.

(Matthew Elton explores how consciousness fits in to the issues surrounding personal and subpersonal psychology.)

Fodor, J. A. (1975). *The Language of Thought*. Harvard University Press.

(Jerry Fodor shows how the methodology of computational subpersonal psychology might be used to provide metaphysics for folk psychology.)

Hornsby, J. (2000) Personal and sub-personal: a defence of Dennett’s early distinction. *Philosophical Explorations* 3(1):6-24.

(Jennifer Hornsby traces the ways in which Dennett’s attitude to personal and subpersonal explanation changed.)

McDowell, J. (1994). The content of perceptual experience. *Philosopical Quarterly* 44 (175): 190-205.

(Argues against Dennett that the metaphors of subpersonal psychology are a very different from psychology considered at the personal level.)

Stich, S. P. (1978) Beliefs and subdoxastic states. *Philosophy of Science* 45: 499-518.

(Stephen Stich introduces the notion of a subdoxastic state, which is similar to some contemporary views of subpersonal states.)