
Biologism – an ideology

Hardly any scientist today will deny that mental functions must have a biological basis, or substrate. A vast amount of evidence has accumulated in neurology since Broca's discovery of the motor speech area, documenting the fact that disturbances of brain functions imply disturbances of mental functions. There can, at least from a scientific point of view, be no mental function without a brain function, or, more specifically, a neural function. From this generally accepted fact a direct, simple, and plausible conclusion follows: in order to validly explain mental processes we must study their underlying neural functions, study "the brain". As direct, simple, and plausible this conclusion may be, it is patently wrong. The scientific project it implies, one of the most ambitious in today's science, is doomed to fail. There has been, and will continue to be a long and often heated debate about this, the heat indicating that nonscientific, ideological aspects are implied. This is no wonder, the debate implicitly dealing with our view of human nature, i. e. with philosophical-ideological questions. The reasons for the predicted failure of the above project of studying the brain in order to understand the mind, have been given in a vast amount of literature, and cannot be discussed in detail here. Let me just mention two.

First there is complexity. On the level of the single brain we are dealing with some one hundred billion neurons, each of which has some thousand connections to other neurons. At each connection (synapse) quite different things may happen, because there are many different neurotransmitters (chemical substances affecting the receiving cell) at work, each of which has a different effect on the receiving cell. This unimaginable complexity is still potentiated because humans are highly social, living in an utterly complex social and cultural environment with the number of possible individual interactions bordering on infinity. As a consequence of this inconceivable complexity of the system, science has, in order to describe and explain it, developed methods specific to what aspect of this system is being considered, be it in sociology, history, political science, linguistics, or art. This specificity of methods used is the most common and logical thing in science. As an example let us take biology. Even if we assume

that biological organisms are composed of elementary particles, and we may well be justified to do so, it makes no sense to take particle physics as the basis for studying biological processes. In other words there are good reasons for the way the system of the sciences has been developed (with, for example, the distinction between the humanities and the natural sciences) and it is not one to be corrected by lumping all the social sciences and the humanities together under the “conceptual frame” of biology, as one of the firmest believers in the biologistic project, E.O. Wilson, proposes. Within the conceptual framework of biology we will never be able to explain how the American Constitution came into being or what inspired Newton to formulate the law of gravitation. Both achievements can only be understood in the *cultural* conceptual frame as given by the writings of thinkers like Montesquieu or Thomas Paine (for the American Constitution), or scientists like Galileo or Kepler (for the law of gravitation).

Many a reader may find these statements commonplace. They are. I always feel uneasy making them. Yet in the present context they must be made because many brain scientists, evolutionary psychologists, or behavioral geneticists simply refuse to accept them. That these statements must be made is a sign of the pathological state of mind induced by today’s craving for “hard” i. e. biological explanations for psychological and cultural processes.

The second reason for predicting the failure of the biologistic project I want to mention is that there are no general rules or “laws” for mental processes, not even for quite simple ones. The fact that we have rules for describing biological processes, like the processes happening at neural membranes or synapses, does not mean that such rules mysteriously emanate for psychological processes once we try to describe them via biological ones. The inconceivable complexity of the brain implies that it is capable of solving the same problem in such a multitude of ways that we are unable to discern any rule or law behind it. As an example take the memorizing of numbers, a function quite simple as compared to, for example, deciding about the next move in a chess game, or contemplating the meaning of a philosophical statement. Some introspection and questioning of fellow people will immediately reveal that there is an infinite number of possibilities for memorizing numbers, that everyone does it in his own way, that the same individual uses different methods on different occasions, and that most of the time one simply does not know how one does it. One can break a number down into parts of different length, associate it (or the parts) with different things already present in memory (e. g. birthdays, shoe sizes, years of historical events etc.), one can visualize the digits, memorize the sound when they are spoken and so on. Of course one can shift the mode depending on the kind of number (seat in the movie theater, phone number), on the time of day, or on what one has eaten for lunch. Clearly the number of combined possibilities is infinite. So the only possible answer to the question of how the brain memorizes num-

bers (note the often used trick to make things appear more scientific by substituting the brain for the person) is, “Just as the individual brain pleases to.” And it is the only answer to be given with respect to mental processes in general.

Biologism, the idea of replacing psychology by brain research implies a misconception of the human mind which in turn is the consequence of a broader misconception, now some hundred years old, namely that psychology should *be* a natural science and not just at times use natural scientific methods and procedures (which is being done in any science). Despite profound criticisms, like, for example, the one brought forward by Sigmund Koch (1999), this misconception has been dominating psychology for many decades and still dominates it today. I have documented its failure (in empirical rather than philosophical terms) elsewhere (Velden, 2010).

If an idea proves resistant to both rational thought and empirical evidence, we must suspect that it is based on a belief system, an ideology. Biologism and psychology seen as a natural science both are such ideologies. In order to understand them, we must go beyond rational scientific thought. To understand biologism, the adherents of which like to see Darwin as their witness, the best we can do is to start with Darwin. Yet it does not suffice to search his texts for single biologicistic explanations, like, for example, his way of relating human ethical judgements to animal instincts. We must also look at Darwin the person, the character, the mind, at his kind of thinking and feeling. Unscientific as these aspects may seem, they tell us as much as the scientific ones (which will be discussed later) whether Darwin, championed by the biologicistic movement, really fits into its mindset.