

Structuralism

Structuralism is a general approach in various academic disciplines that explores the inter-relationships between fundamental elements of some kind, upon which some higher mental, linguistic, social, cultural etc "structures" are built, through which then meaning is produced within a particular person, system, culture.

Structuralism appeared in academic psychology for the first time in the 19th century and then reappeared in the second half of the 20th century, when it grew to become one of the most popular approaches in the academic fields that are concerned with analyzing language, culture, and society. The work of Ferdinand de Saussure is generally considered to be a starting point of the 20th century structuralism. As with any cultural movement, the influences and developments are complex.

Structuralism in psychology (19th century)

At the turn of 19th century the founding father of experimental psychology Wilhelm Wundt tried to experimentally confirm his hypothesis that conscious mental life can be broken down into fundamental elements which then form more complex mental structures. In this part of the 19th century, researchers were making great advances in chemistry and physics by analysing complex compounds (molecules) in terms of their elements (atoms). These successes encouraged psychologists to look for the mental elements of which more complex experiences were composed. If the chemist made headway by analysing water into oxygen and hydrogen, perhaps the psychologist could make headway by considering a perception, e.g., the taste of lemonade, to be a "molecule" of conscious experience which can be analysed into elements of conscious experience: e.g., sweet, sour, cold, warm, bitter, and whatever else could be identified by introspection. A major believer was the psychologist Edward B. Titchener who was trained by Wundt and worked at Cornell University. Since the goal was to specify mental structures, Titchener coined the phrase structuralism to describe this branch of psychology (Atkinson, R.L. 1990, Introduction to Psychology. (10th Ed) New York, Harcourt Brace Jovanovich, p767). Wundt's structuralism was quickly abandoned because its objects, conscious experiences, are not easily subjected to controlled experimentation in the same way as behaviour is. Today, however, brain-scanning technology can identify, for example, specialized brain cells that respond exclusively to basic lines and shapes; the outputs of these cells are combined in other brain areas whose activity correlates with more complex visual experience. This line of research, called cognitive psychology, could be regarded as a new kind of structuralism.

Structuralism in linguistics

Ferdinand de Saussure is the originator of the 20th century reappearance of structuralism, specifically in his 1916 book *Course in General Linguistics*, where he focused not on the use of language (parole, or talk), but rather on the underlying system of language (langue) and called his theory semiotics. This approach focused on examining how the elements of language related to each other in the present, that is, 'synchronically' rather than 'diachronically'. Finally, he argued that linguistic signs were composed of two parts, a **signifier** (the sound pattern of a word, either in mental projection - as when we silently recite lines from a poem to ourselves - or in actual, physical realization as part of a speech act) and a **signified** (the concept or meaning of the word). This was quite different from previous approaches which focused on the relationship between words on the one hand and things in the world that they designate, on the other.

Saussure's *Course* influenced many linguists in the period between WWI and WWII. In America, for instance, Leonard Bloomfield developed his own version of structural linguistics, as did Louis Hjelmslev in Denmark. In France Antoine Meillet and Émile Benveniste would continue Saussure's program. Most importantly, however, members of the Prague School of linguistics such as Roman Jakobson and Nikolai Trubetzkoy conducted research that would be greatly influential.

The clearest and most important example of Prague School structuralism lies in phonemics. Rather than simply compile a list of which sounds occur in a language, the Prague School sought to examine how they were related. They determined that the inventory of sounds in a language could be analyzed in terms of a series of contrasts. Thus in English the sounds /p/ and /b/ represent distinct phonemes because there are cases (minimal pairs) where the contrast between the two is the only difference between two distinct words (e.g. 'pat' and 'bat'). Analyzing sounds in terms of contrastive features also opens up comparative scope - it makes clear, for instance, that the difficulty Japanese speakers have differentiating between /r/ and /l/ in English is due to the fact that these two sounds are not contrastive in Japanese. While this approach is now standard in linguistics, it was revolutionary at the time. Phonology would become the paradigmatic basis for structuralism in a number of different forms.

Structuralism in anthropology

According to structural theory in anthropology, meaning is produced and reproduced within a culture through various practices, phenomena and activities which serve as systems of signification. A structuralist studies activities as diverse as food preparation and serving rituals, religious rites, games, literary and non-literary texts, and other forms of entertainment to

discover the deep structures by which meaning is produced and reproduced within a culture. For example, an early and prominent practitioner of structuralism, anthropologist and ethnographer Claude Lévi-Strauss in the 1950s, analyzed cultural phenomena including mythology, kinship, and food preparation (see also structural anthropology). In addition to these studies, he produced more linguistically-focused writings where he applied Saussure's distinction between *langue* and *parole* in his search for the fundamental mental structures of the human mind, arguing that the structures that form the "deep grammar" of society originate in the mind and operate in us unconsciously, Lévi-Strauss was inspired by information theory and mathematics.

Another concept was borrowed from the Prague school of linguistics, where Roman Jakobson and others analysed sounds based on the presence or absence of certain features (such as voiceless vs. voiced). Lévi-Strauss included this in his conceptualization of the universal structures of the mind, which he held to operate based on pairs of binary oppositions such as hot-cold, male-female, culture-nature, cooked-raw, or marriageable vs. tabooed women. A third influence came from Marcel Mauss, who had written on gift exchange systems. Based on Mauss, for instance, Lévi-Strauss argued that kinship systems are based on the exchange of women between groups (a position known as 'alliance theory') as opposed to the 'descent' based theory described by Edward Evans-Pritchard and Meyer Fortes.

Lévi-Strauss' writing was popular in the 1960s and 1970s. In Britain authors such as Rodney Needham and Edmund Leach were highly influenced by structuralism. Authors such as Maurice Godelier and Emmanuel Terray combined Marxism with structural anthropology in France. In the United States, authors such as Marshall Sahlins and James Boon built on structuralism to provide their own analysis of human society. Structural anthropology fell out of favour in the early 1980s for a number of reasons. D'Andrade (1995) suggests that structuralism in anthropology was eventually abandoned because it made unverifiable assumptions about the universal structures of the human mind. Authors such as Eric Wolf argued that political economy and colonialism should be more at the forefront of anthropology. More generally, criticisms of structuralism by Pierre Bourdieu led to a concern with how cultural and social structures were changed by human agency and practice, a trend which Sherry Ortner has referred to as 'practice theory'.

Structuralism in the Philosophy of Mathematics

Structuralism in mathematics is the study of what structures (mathematical objects) are, and how the ontology of these structures should be

understood. This is a growing philosophy within mathematics that is not without its share of critics.

Paul Benacerraf's "What Numbers Could Not Be" (1965) is a seminal paper on mathematical structuralism in an odd sort of way: it started the movement by the response it generated. Benacerraf addressed a notion in mathematics to treat mathematical statements at face value, in which case we are committed to an abstract, eternal realm of mathematical objects. Benacerraf's dilemma is how we come to know these objects if we do not stand in causal relation to them. These objects are considered causally inert to the world. Another problem raised by Benacerraf is the multiple set theories that exist by which reduction of elementary number theory to sets is possible. Deciding which set theory is true has not been feasible. Benacerraf concluded in 1965 that numbers are not objects, a conclusion responded to by Mark Balugar with the introduction of full blooded platonism (FBP is essentially the view that all logically possible mathematical objects do exist). With FBP it does not matter which set-theoretic construction of mathematics is used, nor how we came to know of its existence, since any consistent mathematical theory necessarily exists and is a part of the greater platonic realm.

The answer to Benacerraf's negative claims is how structuralism became a viable philosophical program within mathematics. The structuralist responds to these negative claims that the essence of mathematical objects is relations that the objects bear with the structure.

Important contributions to structuralism in mathematics have been made by Bourbaki.

Structuralism in the Literary Theory and Literary Criticism

In literary theory structuralism is an approach to analysing the narrative material by examining the underlying invariant structure. For example, a literary critic applying a structuralist literary theory might say that the authors of the West Side Story did not write anything "really" new, because their work has the same structure as Shakespeare's Romeo and Juliet. In both texts a girl and a boy fall in love (a "formula" with a symbolic operator between them would be "Boy +LOVE Girl") despite the fact that they belong to two groups that hate each other ("Boy's Group -LOVE Girl's Group") and conflict is resolved by their death. The versatility of structuralism is such that a literary critic could make the same claim about a story of two friendly families ("Boy's Family +LOVE Girl's Family") that arrange a marriage between their children despite the fact that the children hate each other ("Boy -LOVE Girl") and then the children commit suicide to escape the arranged marriage; the justification is that the second story's structure is an 'inversion' of the first story's structure: the

relationship between the values of love and the two pairs of parties involved have been reversed. Structuralistic literary criticism argues that the "novelty value of a literary text" can lie only in new structure, rather than in the specifics of character development and voice in which that structure is expressed.

Structuralism after World War II

Throughout the 1940s and 1950s, existentialism like that practiced by Jean-Paul Sartre was the dominant mood. Structuralism surged to prominence in France after WWII and particularly in the 1960s. The initial popularity of structuralism in France led it to spread across the globe.

Structuralism rejected the concept of human freedom and choice and focused instead on the way that human behavior is determined by various structures. The most important initial work on this score was Claude Lévi-Strauss's 1949 volume *Elementary Structures of Kinship*. Lévi-Strauss had known Jakobson during their time together in New York during WWII and was influenced by both Jakobson's structuralism as well as the American anthropological tradition. In *Elementary Structures* he examined kinship systems from a structural point of view and demonstrated how apparently different social organizations were in fact different permutations of a few basic kinship structures. In the late 1950s he published *Structural Anthropology*, a collection of essays outlining his program for structuralism.

By the early 1960s structuralism as a movement was coming into its own and some believed that it offered a single unified approach to human life that would embrace all disciplines. Roland Barthes and Jacques Derrida focused on how structuralism could be applied to literature.

Blending Freud and De Saussure, the French (post)structuralist Jacques Lacan and, in a different way, Jean Piaget, applied structuralism to the study of psychoanalysis and psychology each respectively.

Michel Foucault's book *The Order of Things* examined the history of science to study how structures of epistemology, or episteme shaped how people imagined knowledge and knowing (though Foucault would later explicitly deny affiliation with the structuralist movement).

Blending Marx and structuralism another French theorist Louis Althusser introduced his own brand of structural social analysis. Other authors in France and abroad have since extended structural analysis to practically every discipline.

The definition of 'structuralism' also shifted as a result of its popularity. As its popularity as a movement waxed and waned, some authors considered themselves 'structuralists' only to later eschew the label.

The term has slightly different meanings in French and English. In the US, for instance, Derrida is considered the paradigm of post-structuralism while in France he is labeled a structuralist. Finally, some authors wrote in several different styles. Barthes, for instance, wrote some books which are clearly structuralist and others which clearly are not.

Reactions to Structuralism

Today structuralism is less popular than approaches such as post-structuralism and deconstruction. There are many reasons for this. Structuralism has often been criticized for being ahistorical and for favoring deterministic structural forces over the ability of individual people to act. As the political turbulence of the 1960s and 1970s (and particularly the student uprisings of May 1968) began affecting academia, issues of power and political struggle moved to the center of people's attention. In the 1980s, deconstruction and its emphasis on the fundamental ambiguity of language - rather than its crystalline logical structure - became popular. By the end of the century Structuralism was seen as a historically important school of thought, but it was the movements it spawned, rather than structuralism itself, which commanded attention.

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