CHARLES J. FILLMORE

Charles J. (Chuck) Fillmore, 67th president of the Linguistic Society of America, died on February 13, 2014, at his home in San Francisco, California. Fillmore was one of the world's preeminent linguists. His career spanned more than half a century, during which he contributed a reliably constant stream of original and influential ideas in many areas of linguistic research.[1]

Fillmore was born in St. Paul, Minnesota, in 1929. According to him, his first exposure to the field of linguistics came at age fifteen, when a missionary neighbor gave him a copy of Eugene Nida's *Linguistic interludes* (1944), introducing him to a set of understandings about language that were in stark contrast to beliefs held by most nonlinguists, for example, that 'relevant linguistic generalizations are based on speech, not writing'. This early experience motivated him to study linguistics at the University of Minnesota, where, as a college student, he supported his studies by wrapping venetian blinds at Montgomery Wards. As a student he participated in the building of a concordance of some Late Latin texts, an effort that required several generations of students, working with index cards and typewriters. During that time he attended two LSA Summer Institutes. One, held in 1951 at the University of California, Berkeley, he spent studying with Mary Haas, Franklin Edgerton, and Harry Hoijer and learning about Thai, Sanskrit, and Navajo. As an undergraduate, he taught English to post-war Eastern European immigrants and became familiar with Slavic and Baltic languages.

After college, faced with the draft, Fillmore took the US Army Russian Language Proficiency Test, and although he did not speak the language, having taken just one year of Russian, he passed at the 'high fluent' level. He was sent to Kyoto, Japan, to monitor encoded Russian transmissions on a shortwave radio. In his spare time he studied Japanese and became interested in the comparative syntax of English and Japanese, using his own system of representing sentence structure, as syntax had not been part of his studies in college. After serving his term, Fillmore received the first Army local discharge to Japan and stayed on, teaching English and studying the structure of Japanese at Kyoto University.

In 1957, Fillmore began his graduate studies in linguistics at the University of Michigan, Ann Arbor, at a time when structuralist efforts to formulate discovery procedures were at the forefront of scientific research on language. He worked on phonetics, phonology, and syntax as an advisee of Kenneth Pike, was exposed to Charles Fries's work on discovering grammatical categories through their distributional properties, and also worked part-time on a Russian-English machine translation project with Andreas Koutsoudas.

By his own account, Fillmore was among the first in Ann Arbor to read Chomsky's *Syntactic structures* in 1957 and 'became an instant convert, [giving up] all ideas of

[1] In 2012, Charles Fillmore was honored with the Lifetime Achievement Award of the Association for Computational Linguistics. As a result, one of his last publications (Fillmore 2012) was an invited reflection on his life in linguistics. We draw from that here, but the reader is encouraged to read the original, which is filled with capacious, insightful, and often hilarious observations about the ways that language may be represented and the consequences for analysis and theorization, based on his experiences in linguistics over the last six decades.

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procedural linguistics' (Fillmore 2012:707). After receiving his Ph.D. in 1962, he took a job at the new linguistics department at The Ohio State University in Columbus, where he taught for the next ten years. In 1963, he published a paper on embedding rules in a transformational grammar (Fillmore 1963). The paper introduced the notion of cyclic application of grammatical rules: apply all rules to the smallest applicable unit, then apply them to the smallest unit containing that one, and so on. This principle is still active in grammatical theory. During this time he worked within the GENERATIVE framework embodied in Chomsky's *Aspects*—'faithfully … and eagerly', in his own words—yet continued to explore divergent approaches such as Tesnière's 1959 precursor to dependency grammar.

As Fillmore recounts this period, he was engaged in a project to create a single, coherent, transformational grammar of English when he encountered a problem with the notation used to represent the valence of predicates. Symbols such as P(a), P(a,b), and P(a,b,c) could be used to represent many of the important facts about intransitive, transitive, and ditransitive predicates across categories, and about the properties of their subjects and objects, but failed to capture important generalizations about classes of arguments of particular kinds of predicates within and across those groupings. In 1968, he published the classic paper 'The case for case', which (along with the contemporaneous work of Jeffrey Gruber and earlier papers of his own, e.g. Fillmore 1966) introduced into linguistics the issue of the extent to which syntactic structure can be predicted from semantic role classes (called by Fillmore 'deep cases'), such as agent, patient, experiencer, goal, location, and a small number of others. Case grammar became something of a cottage industry for a time. The seminal idea of a finite and universal hierarchy of what are now called THEMATIC ROLES acting to determine grammatical relations (subject, direct object, etc.) is still endorsed and debated among students of grammatical theory.

Soon after, Fillmore took a position in the linguistics department at UC Berkeley, where he remained until his retirement in 1996. One strand of work that emerged early on in his time at Berkeley grew from his remarkable ability to notice and dissect complex interrelationships between language and context. He delivered what were known as the Santa Cruz Lectures on Deixis in 1971 (published in part as Fillmore 1973 and in their entirety by the Indiana University Linguistics Club in 1975 (Fillmore 1975a), later extended in Fillmore 1982, and published in full by CSLI Publications in 1997), and the lectures were a major stimulant to the then-nascent field of linguistic pragmatics—the interaction between linguistic form and the context of utterance—which now flourishes.

As he continued working on case grammar in his early years at UC Berkeley, Fillmore developed a foundational insight that would lead to several strands of highly influential work. Early on, Fillmore had hoped to capture generalizations about the relations between syntactic structure and the roles of participants in events through the study of semantic roles. But he noticed that certain configurations of roles could themselves be usefully viewed as indexing SITUATION TYPES. For example, the assembly of case roles Object, Path, Goal indexes a motion event (as in *The water flowed through the crack in the floor into the storage room*). Motion events are situations that carry their own implications and can be characterized without respect to a particular predicate. The set Stimulus, Experiencer (as in *The noise scared me* and *Snow delights her*) indexes a very different kind of event involving emotion or perception. At first Fillmore called these CASE FRAMES. As he began to see the primacy of frames, he proposed that lexical semantics should take on the job of characterizing these semantic frames and should explore whatever systematicity emerges from them, working frame by frame.

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This work expanded along several major pathways. In a series of papers spanning ten years, starting in 1975 with 'An alternative to checklist theories of meaning' (Fillmore 1975b) and concluding in 1985 with 'Frames and the semantics of understanding', Fillmore developed the theory that linguistic meaning is better considered from the point of view of the concepts present in the mind of the speaker and aroused in the mind of the addressee than from the dominant logical viewpoint of truth and falsity. An illustrative example is the simple pair *on the ground* and *on land*. While the entailments of two sentences differing only in these two phrases may be the same (*The vehicle remained on the ground/on land*), our understanding of them is mediated by two distinct frames indexed by those phrases, one featuring air travel and one featuring travel by water. Fillmore's frame semantics remains one of the principal foundations of the field of COGNITIVE LINGUISTICS, informing the traditions initiated by George Lakoff and Ronald Langacker.

As Fillmore continued this work into the late 1980s, he began a collaboration with B. T. (Sue) Atkins, which resulted in a number of papers exploring how word meaning is understood 'with reference to a *structured background of experiences, beliefs, or practices*' (Fillmore & Atkins 1992:76). Frames were thus a tool with which Fillmore and colleagues could explore the connections among a word or phrase in a particular language, a particular set of speakers, and a particular context. Within their collaboration, they expanded lexicographic practice amid the new resources made available by online corpora, while at the same time beginning to theorize a 'frame-based lexicon'.

The links to Fillmore's previous work on case frames is clear, but in this research the central construct was the conceptual frame that binds together a group of words. Fillmore's original example was the COMMERCIAL EVENT frame, in which a *buyer buys goods* from a *seller*, who *sells* them, *charging* some *money*, constituting the *price*, which is *paid*, and which is also what the goods *cost* and therefore what the buyer must *spend*. The point is that the italicized words must be understood as a group; they interdefine each other within the frame (or scenario) of the commercial event.

At this time Fillmore began to consider the power of frames to guide automatic text processing as well, since words may evoke a frame, and reciprocally, frames may guide interpretation of incoming lexical material. With Collin Baker and colleagues, he began to seek funding to support what would become known as FrameNet. The goal was to create a database containing all relevant lexical FRAMES that would support a wide variety of work in computational lexicography and beyond. In this instantiation, frames are 'the cognitive schemata that underlie the meanings of the words associated with that Frame' (Fillmore 2012:714, Fillmore, Johnson, & Petruck 2003).

In the mid to late 1980s, working with colleagues and students at Berkeley, Fillmore began a new program of research: he resurrected the notion of GRAMMATICAL CONSTRUCTION from traditional (pregenerative) grammar. Some see this as stemming from Fillmore's capacity to deeply engage with all of the dimensions of the lexicon, including collocations and idiomatic structures associated with particular lexical items, while others see it as an entirely new direction. One study examined the conditions associated with use of the conjunction *let alone*, as in *He can't get it together to serve coffee, let alone make brunch for four*. He and his collaborators (Fillmore, Kay, & O'Connor 1988) concluded that the syntactic, semantic, and pragmatic conditions on its use, almost none of them predictable from general rules, constituted a CONSTRUCTION—a grammatical entity that warranted serious theoretical and empirical consideration, one that could not be fully explained by the rules of ordinary syntax and the meanings of the

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component lexemes. A central idea was that both familiar grammatical phenomena and unusual or idiomatic structures are best explained if linguistic theory has access to inventories of conventionalized phrasal and clausal types. The *let alone* article was followed by other work in the same vein, including Kay & Fillmore 1999, and Fillmore's work on conditional constructions (Fillmore 1986, 1990).

While this turn grew in part out of Fillmore's work on frame semantics, his fascination with idiomaticity had much earlier roots in his development. In Fillmore 2012, he recounted his earliest attempt to 'work with language data'. In his early teens, finding himself often tongue-tied and at a loss for words, he became convinced that he had a problem with language.

> At around age 14 I presented my problem to a librarian in the St. Paul Public library, and she found me a book called *5000 Useful Phrases for Writers and Speakers*. A memorable example was 'With a haggard lift of the upper lip … ' I took the book home, cut sheets of typewriter paper into eight pieces to make file slips, chose phrases I thought I should memorize, and copied them onto these slips. I held them together with rubber bands, and I kept them in a secret place in my room. Thus … my earliest theory of language began to develop: *Linguistic competence is having access to a large repertory of ready-made things to say*. … In later years I held on to the suspicion that much of ordinary conversation in real life involves calling on remembered phrases rather than creating novel expressions from rules. Much later I learned that in many Eastern European countries influenced by the Moscow School, … the study of phraseological units—**phraseologisms**—was seen as central, not peripheral, to linguistic inquiry. (Fillmore 2012:701–2)

Fillmore's view of a grammar as a system of constructions challenged the increasing emphasis within the generative tradition that reduction to a small number of highly abstract principles is an achievable goal of grammatical theorizing. Fillmore envisioned an explicit grammar (generative in Chomsky's original sense), based substantively on the traditional notion of construction and formally on an explicit, constraint-based formalism—Fillmore's original model being the FUNCTIONAL UNIFICATION GRAMMAR of Martin Kay (1984). This line of research has led some workers to further develop constraint-based constructional systems (e.g. Malouf 1998, Kay & Fillmore 1999, Kathol 2002, Richter & Sailer 2009, Sag 2010, 2012, Michaelis 2012), while other researchers in construction grammar have been attracted to different representational systems with different theoretical commitments, for example Lakoff 1990, Goldberg 1995, Culicover & Jackendoff 1999, Croft 2001, Fried & Östman 2004, Steels 2004, Bergen & Chang 2005.

Although constructional approaches to grammar have been criticized as concerned only with peripheral aspects of grammar, some constructional approaches, especially those in the constraint-based tradition, have argued strenuously that both relatively idiomatic ('peripheral') constructions and 'core' grammatical processes can be insightfully formulated in the same formal terms (Sag 1997, 2010, 2012, Ackerman & Webelhuth 1998, Kay & Fillmore 1999, Kay & Sag 2012, Ackerman & Nikolaeva 2013). In Fillmore's view a grammar should reflect in a uniform system of description BOTH the obvious and general patterns AND the nuanced and delicate distinctions that the data of a language present. Though formal constructionist research is most closely associated with syntactic analysis, over the years the same perspective has extended to both inflectional and derivational morphology (Gurevich 2006, Booij 2010, Caballero & Inkelas 2013).

CONSTRUCTION GRAMMAR is now a set of diverse schools of thought, energized by the increasing importance and availability of natural language technologies and new statistical, computational, and experimental methods, and by the need to deal with the kinds of detailed and hard-to-summarize linguistic facts that Fillmore's original constructionist approach highlighted. Overall, the focus stemming from this work has had

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influence on syntacticians, morphologists, and semanticists beyond those who term their work 'construction grammar'.

After his retirement from UC Berkeley, Fillmore devoted most of his efforts to the development of FrameNet, working with colleagues at the International Computer Science Institute in Berkeley, CA. FrameNet builds online dictionaries arranged by frames. There are currently significant FrameNet projects going on in Chinese, English, German, Japanese, Brazilian Portuguese, French, and Spanish.

There is one additional subfield in which Fillmore's insights have been brought to bear. Though it is less widely known within mainstream linguistics, this work illustrates well the creativity and humane concerns of his comprehensive interests. For many years, Fillmore collaborated with his beloved wife, Lily Wong Fillmore, in work on language in educational settings of many kinds. Influenced by her work on second language learning and by his own interest in text complexity and lexical semantics, he pursued research in the processes by which students come to understand reading-test items as texts (or 'textoids', as he deemed them). His original work (Fillmore 1984) on young readers' 'envisionments' of the text world, which unfolded as they worked their way through the decontextualized test-item texts, has influenced later work in literacy studies. More recently, Fillmore and Wong Fillmore addressed the issue of text complexity within the context of the Common Core State Standards. As teachers are encouraged to engage English learners with complex texts—learners who have long been restricted to often inappropriately simplified materials—text complexity has become a pressing issue among educational linguists: how can teachers most productively share such challenging texts with learners? In Fillmore & Fillmore 2012, they together provide a partial analysis of the language of Martin Luther King Jr.'s *Letter from Birmingham Jail* and consider how to support teachers in this effort. Fillmore continued to work on these issues with his wife until the final month of his life.

The magnitude of Charles Fillmore's contributions to linguistics and to the lives of his colleagues and students can hardly be exaggerated. He was cherished by many for his kindness, patience, generosity, and humor, as well as his brilliant insights into language and linguistics in all its forms. There are many who count the opportunity to have been one of his friends, colleagues, and collaborators among the great privileges and honors of this life, and we are among them. [Farrell Ackerman, *University of California, San Diego*, fackerman@ucsd.edu; Paul Kay, *University of California, Berkeley (Emeritus)*, paulkay@berkeley.edu; and Mary Catherine O'Connor, *Boston University*, mco@bu.edu.]

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