**Bruner’s Lectures: Cultural Psychology *in statu nascendi***

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I propose to take a more proximate and micro-contextual approach to the history of cultural psychology, by focusing on the 1960s. In this historical snapshot, Jerome Bruner emerges as a consummate experimental scientist, organizer of scientific knowledge, and entrepreneur in education. Looking ahead, his work continued to evolve: from perceptual readiness and values in perception (1950s) to thinking and educational psychology (1960s). Then came developmental psychology and spiral curriculum (1970s), language as social interaction (1980s), the narrative turn to meaning (1990s), and legal psychology (2000s). His scientific biography resembles a prism, refracting myriad persons and cultures in which he moved. Within that context it is possible to trace several pathways to cultural psychology.

Letters and other unpublished documents can provide a window into scientific biography. We have here the lecture notes from Bruner’s “Cognitive Processes” course, Psychology 148, in the Fall 1965. I was the 21-year-old notetaker, a junior at Harvard majoring in History and Science, with a focus on German history and psychology. I shall review here the interdisciplinary research that he organized and critiqued for his class of perhaps 50 students. In these lectures, evolution and experimental psychology were coalescing to provide insights for cognitive psychology. Bruner’s *A Study of Thinking* (1956) had already launched cognitive psychology. Since these lectures occurred 20 years before *Actual Minds, Possible Worlds* (1985), and 25 years before *Acts of Meaning* (1990), we should hardly expect to find narrative psychology here. However, readers of this volume might like to learn about cultural psychology’s prehistory here. I shall try to convey through generous quotations Bruner’s theoretical insights from experimental research touching on culture.

***Psychology 148. Cognitive Processes - Jerome Bruner***

***9/27/65***

*Perfectability of man’s intellect – in light of forces on the intellect*

*Constraints*

1. *By nature of knowing (cognitive)*
2. *Co-evolution of intellect*
3. *Growth of intellect from childhood – the growing up in a society*
4. *The nature of the brain*
5. *Measure in which performance in intellect is held by man [au: the degree to which performance indicates intellect]*

*Constraint = anything that limits kinds of quantities of things that are possible during lifetime of an organism.*

*Ex. 3 x 109 seconds man’s lifetime*

*3 x 109 years history of earth*

*Illustrates that constraints are not immutable; power of reconstruction permits you to break out from the period in which you live.*

*Perhaps possible to classify into internal & external [au: constraints].*

*Internal – limits placed upon us by our capacities larger range (more reflective), longer time*

*External – particularly important for human species: tools, language, cultural inventions to code reality*

*Microscope enlarges cellular properties of nervous system*

*Not innocent of moral implications*

*Psychologist in zeal often forgets alternatives to be considered.*

*You will be attacked for preferences, although you have to use neutral methods, results not.*

*John Locke – nature of mind and effect on society*

*John Dewey*

*Revelation in Church – Renaissance, Gilson [History of Christian Philosophy in the Middle Ages, 1955] discusses: “I believe in order to understand” - St. Anselm.*

*Galileo – man goes about finding truth using reason, logical necessity, and observation.*

*Mechanics of course*

*M + W meeting*

*F demonstrations, films, discussions*

*Reading assignment due about Oct. 15*

*Harper [& Anderson] – Parts 3 and* 4 Harper, R. J. C. & Anderson, C. C. (1964)*.* *The cognitive processes: Readings*. Englewood Cliffs: Prentice-Hall.

F. H. Allport – Chap. 4, 5, 7, 11,13, 14, 15 *Theories of perception and the concept of structure*. N.Y.: Wiley, 1957.

Mandler – Thinking all Mandler, J. M. & Mandler, G. (1964). *Thinking: From association to Gestalt*. Westport, CT: Greenwood.

*Hr exam on about Oct. 29*

*Reading period, 3 or 4 books, assignment of one on which essay question on exam*

*Reading is to fill in material in lectures*

Note the interdisciplinary reach of Bruner’s approach to cognition. How many twentieth-century psychologists would consult St. Anselm and Galileo in setting the stage for their course and their theoretical deep structure? “I believe in order to understand” is a call to focus on performance. Note, too, the historical and philosophical grasp: Mandler & Mandler (1964) includes annotated selections form Aristotle, Hobbes, Locke, Hartley, James Mill, J. S. Mill, then the “transition of psychology to the laboratory” with the Würzburg School of directive thought. Bruner shares the Mandlers’ critique of psychology: “The single kind of causal explanation in psychology is derivation of more complex psychological phenomena from simpler ones” (p. 126).

For starters in his cognitive processes course, Bruner invokes evolutionary “constraints” on the emergence of complex ideas from simple ones. “Constraints” is a biological term anchored in subsequent evolutionary research and method: “hypotheses need to be tested in specific cases before any robust assessment is possible of the extent of any compromise between extrinsic and intrinsic factors in shaping patterns of evolution, whether involving change or stasis” (Cf. Brakefield & Roskam, 2006, S5, citing Gould, 2002). Adaptation through natural selection is limited by constraints of populations,namely, any trait that is already built in by evolution (Gould & Lewontin, 1979). Bruner writes of internal and external limits on our capacities and external tools to “code reality.” Psychologists came late to an appreciation of evolution and cultural psychology. “These approaches explain the baseline from which cultural divergences depart” (Konner, 2007, p. 99).

***10/1/65***

*Problem faced: how a culture meets means of solving problems. Ref. Miller [*i.e., Miller, Galanter, and Pribram (1960) or Miller, G. A. (1962), *The science of mental life*. N.Y. Harper & Row]

*Disagreement with Levi-Strauss at Palais de France, anthropologist*. [*Structural anthropology*. N.Y.: Basic, 1963]

*Each culture empowers person to operate within its framework*

*Bruner says use of amplifiers of mind – e.g., telescopes – thus unlocking or vice versa power of society*

*Education enables people to amplify themselves*

*Human beings have 3 different partially [overlapping] systems*

1. *Action – e.g., learning to ride a bike*
2. *Imagery – iconic representation*
3. *Symbol – prototype is language, can deal with combinations of symbols, not possible in images*

*Each mode has own skills and defects.*

*Relationship of thought and action*

 *How we take models of world to derive plans of action*

 *Picture so far tends to be static*

 *Tolman “behavior reeks with purpose*.” [i.e., *Purposive behavior in animals and men.* N.Y.: The Century Company, 1932]

 *See* Newell, A.; Shaw, J. C.; and Simon, H. A. [*Elements of a theory of human problem solving*. Santa Monica: Rand Corp., 1957]

*How did it get this way: evolution of primate intelligence (later development of child)*

 *Best bet is field study of primate behavior for coming insight*

 *Species that spread over earth: man, body-louse, and laboratory rat*

 *Lashley cerebral action and equipotentiality* [*Brain mechanisms and intelligence: A quantitative study of injuries to the brain.* Chicago, 1929]

 *Rat is the evolutionary utility infielder*

 *Better to study in niche where [it lives].*

*Evolution of intelligence result (subsequent to) development of bipedalism.*

 *Tool using depends on some primary intro.*

 *Ex. Baboon watches chimpanzee dipping a straw with spittle into a termite hill*

*Prosthension among hominids*

*Tools substituted for manual operations, a program analogous to language.*

 *One wonders whether common origin possible.*

 *Spontaneous pebble tool one of first, used as stone knuckle then broken stones for cutting*

 *Programmatic use of tools – Bushmen had 13 tools only*

*Not a large brained hominid, but tool-using favored man’s evolution*

 *Man depends on culture to preserve ecological niche.*

 *Once man reaches the point at which he depends on tools he is no longer depending on evolutionary adaptation through morphological change.*

 *“Lamarkean and reversible, not Darwin and irreversible.” – see source books*

*D(arwin) – random variation naturally selected*

*L(amarck)– variations biased by purpose, “knowing”*

*Cultural pool instead of gene pool.*

*Capacity for language seems to have made possible much else. Feature of evolution lies in the control of impulses. Particularly in emotional behavior, aggression.*

 *Research difficult; measure of aggression is when they run around or stand facing each other, display behavior involved.*

 *Species specific studies made*

 *Observe decreasing control by hormonal system*

 *Increasing effect of early conditioning and cerebral cortex (experience)*

 *Striking increase of central nervous system is important*

*Classificatory kinship*

 *You can control sexual behavior*

 *E.g. Incest taboo – striking*

 *Observations by Irving Hallowell, studied Ojibway Indians*

 *When person classified as member of restricted group, reaction is function impotence in male – central nervous system intervenes.*

*In place of dominance and territoriality, is pattern of exchange.*

 *More stable kinship pattern*

 *Other concerned continually with finding niche.*

 *Long childhood almost accidental – born with smaller brain to facilitate leaving smaller passageway*

Bruner’s mention of tool use, language, kinship, and territoriality in his third lecture reflects exposure to, if not immersion in, anthropology. He cites a theoretical disagreement with Claude Levi-Strauss (1963a, 1965) and he cites anthropologist Irving Hallowell for field studies (Hallowell, 1960). Psychology and anthropology had come together in a conference in Mexico in Spring 1963 (Romney & Andrade, 1964); there was consensus that the cognitive revolution was problematic for anthropology with its information processing assumptions and computer analogies (Norenzayan, 2007; Shweder, 2007). Evolutionary thinking would have surrounded Bruner at Harvard in the persons of Ernst Mayer, Richard Lewontin, and Steven Jay Gould. One problematic is the relatively sudden rise of homo sapiens, about 250,000 years ago. Bruner alludes to this with mention of tool use and kinship patterns. These became “constraints” on evolution, something that limits subsequent variation. Culture, in other words, establishes kinship patterns and more generally, adaptation to niches. For the anthropologist, cultures are conceptualized not as behaviors or even processes but as codes of shared symbols. Thus, at the above multidisciplinary conference, the psychologists were studying “intellectual processes such as categorization, inference, or memory,” whereas anthropologists studied codes and their meaning (Shweder, 2007, p. 823). As we shall see, Bruner is not yet appreciative of “meaning” in a central way; instead, he is developing a theory of action, imagery, and symbol.

***10/8/65***

*4th problem: growth from the point of view of the human child; it does not flow smoothly, but in spurts*

 *Child uses grammatical form, ‘holophrastic, e.g. “Mommy!”*

 *Pivot word and an open class*

 *X = everything in vocabulary, e.g., Mommy, Daddy*

 *P = operation, privileged position, e.g., all gone, no*

 *P (x) (x) p ex. All gone, Mommy*

*Take sample, first week get 8, next 20, 30, 1500. “Funktionslust”*

 *Then follows a consolidation period until phrases become aposit (relevant)*

 *Tremendous usage followed by consolidation*

 *Spurt seems prerequisite to further learning*

 *Growth seems to be mastery of sequentially interlocking steps; then fitting these steps into widely different activities*

*Many skills are directed to one or two ends:*

1. *To the maintenance of invariance*
2. *to the transcending of momentaneous [sic] response*
3. *Recognition of continuity in things transformed into response they evoke*
4. *Child develops concept of object (primariy 1st year of life)*

*Cover play object with handkerchief, loses attraction Put screen in front of object child will not take it from other side.*

*Object persists without contact*

*Self-alerting responses, under regulation of language*

 *Soviet form of avoiding term attention*

 *Central emphasis coming to focus on self-determination (instead of on environment)*

*Geneva (Piaget) – Continental Kantian theory; child is in stage of developing concrete operations*

 *he internalizes world and responses to it. Now he has reversibility. Finally, the child goes beyond happenings in past to sense possibilities ahead*

1. *Sensory-motor response (2) internalization (3) we can think of all possible encounters past and present*

*Habitual patterns seem to become printed in imagery – we have no good explanation*

*Imagery becomes powerful way of transmitting environment, runs parallel*

*Vygotsky – language is the internalized linguistic form with external environmental effects which Swiss School ignores*

*Problem: how do we internalize?*

*2) transcending of momentaneous response. Glass fuller, emptier, because it has more water, more air in it.*

*New senses needed for coherence*

*The school is one system which seems to dim curiosity*

*Telling lacking of feedback: (a) curiosity (b) competence (seeking) (c) maintaining supposed standard of a model (not our own), called patterning or identification. Akin to Funktionslust.*

*Primate is one of few creatures with high degree of sustenance; knowledge of results is one necessity for learning behavior.*

*You can arrange encounters (taking into account cleverness of culture in developing these), and observe how individual left to his own powers reaches the peak*

*Imagery: I give you input, you have to give me back, e.g., name states, spatial patterns can also be [input].*

Pivot words were described in an experiment by Jean Berko (1958) in which a child was then shown pictures of one object called a “wug.” She was then shown two such objects and asked what they were called. If she produced, “wugs,” this would show a syntactic rule. Bruner may have also know his admired colleague Roger Brown’s paper with Berko (1960). Bruner’s critical reception of Piaget is of profound interest; he fastened on how habits are repeated in “imagery” and symbol. This individual act presumably becomes universal. In his autobiography *In Search of Mind* (1983), Bruner reports that he had paid his first visit to Piaget in Geneva in 1956. The growth of mind was “a logical machinery in the main” (1983, p. 137). Yet the seeds were sown decades earlier. Beginning in Fall 1938 Bruner was steeped as a graduate student at Harvard in the “culture and personality” school of Clyde Kluckhohn. Bruner later ridiculed John Whiting’s Yale Cross Cultural Index correlating child-rearing practices in preliterate societies with cultural traits (pp. 134-135). Why sort out the “age of weaning” on the assumption that it “has the same significance in all cultures” (p. 135)? Cultural context was missing, and “that, of course, was the issue that brought the enterprise down. Structuralism was waiting to be born” (p. 135). Personality was “decontextualized,” but so was Piaget, whom he encountered in 1956. Piaget’s passions were the child acting “alone” in the world, with a machinery that was “almost scandalously scanty” (p. 137).

Bruner noted that “Vygotsky’s world was an utterly different place, almost the world of a great Russian novel or play – Tolstoyan or Chekhovian” (p. 139). As my 1965 notes show, Bruner admired Vygotsky’s concern with internalized linguistic form *and* external cultural reality. In Vygotsky, how does the child transcend the momentary response, called patterning, identification, or internalization? The concept for pleasure of activity (*Funktionslust*) came from the Bühlers, Karl and Charlotte. It was also used by Jean Piaget for reflex movements in the sensori-motor stage, whereby a child takes pleasure in repeating a movement. Vygotsky added the dimension of language that Piaget ignored. Language reflects cultural meaning, a theme of Bruner’s later work. It is more than signs and syntax; it entails a speech community with rules, understandings of their interpretation, and frameworks for action. Shared cognitions and styles comprise culture (Bruner, 1990 cited in Chiu, Leung, & Kwan, 2007).

***11/12/65***

*LeGros Clark, Antecedents of Man (1960)*

 *Evidence on living types confirmed by fossil evidence to suggest from tree view on an evolutionary sequence.*

 *Arboreal life provided opportunity for development, visual acuity, etc.*

 *Pedomorphism most important, finally bipedalism*

*Rensch, [Bernhard, whose “evolution of life” is cited later in these lectures, but he is probably referring to* Rensch, *Evolution above the species level, 1960]*

 *Evolution from monkeys proved*

1. *Hands 2. Ontogenesis, development after birth slow 3. Social life of monkeys indispensable on way to human language*

*Until now, evolution of structures discussed. Now, consider evolution of mind*

*“evolution of minding” by L. A. White. Read paper and work way thru subhuman primates for evidence of this cultural viewpoint [*In Harper & Anderson*, The cognitive processes: A reader? Cf*. Leslie A. White*, The evolution of culture, 1959; biographical essay on White in* Moore, J. D., 2004]

*4 distinct types of learning, each is a step forward in evolution*

*Type I. O-S organisms and stimulus, all response from match of intrinsic properties of organisms and stimulus, actively dominated by environment.*

*Type II. O-S1*

*Response to S2 after S1 is removed; it is not dependent on intrinsic properties of input. Pavlovian paradigm. Still dominated by environmental events because contemporaneity of S1 and S2 depends on.*

*Type III. Two features of organism and the environment, stick with hook and fruit, cues to draw into cage. Organism relates two objects on basis of intrinsic properties, under control of flip-flop mechanism in organism.*

*Type IV. Symbolizing relationship. Organism now able to relate two objects to each other. Not on intrinsic properties but on referential properties this time.*

*If theory only designed to explain what’s happened, lack value of theory for predicting. Macaque mulata – examine growth from conception to maturity in this monkey types I-III*

*Ontogeny of perception [notes omitted]*

*Piaget’s observations all in 4-5 month baby, i.e., middle-aged neonate.*

 *Individual difference begins after 4 months. Observed pretty complicated object building that baby is*

 *cooperative, implies lots of perceptual stuff has already taken place. Swing watch on chain, baby follows.*

*Reading in order to Xmas*: Flavell, *Piaget*; Vygotsky, first 3 chapters; Bruner, *The process of education* [Cambridge: Harvard University Press, 1960]

Bruner invoked evolutionary fossil evidence from Bernhard Rensch (1960) and from LeGros Clark (1960), the British neuroanatomist. Clark became a controversial proponent for primate evolution based on a small-brained hominid, Australopithecus, that walked in “an approximately upright fashion” (Zuckerman, 1973); he was one of three who proved the Piltdown Man to be a forgery (Spencer, 1990). His former colleague Zuckerman argues that another African primate discovered in Kenya with a larger brain and more upright posture was a better example of evolution between apes and humans, which occurred a million years earlier. Clark’s book *Antecedents of Man* contained a rebuttal of orthogenesis, a claim for gradual evolution in the germ plasm (genetics) - rather than natural selection, which he had embraced in his *Early Forerunners of Man* (1934). But orthogenesis fit the claim of cultural psychologists that rapid changes in cognition were passed on through social learning mechanisms such as mimicry, imitation, instruction” (Norenzayan, 2007, citing Richerson & Boyd, 2005). Notice Bruner’s continued emphasis on the individual organism. Yet Type IV of Organism-Stimulus Learning introduces “symbolizing relationship” based on “referential properties.” Bruner as a perceptual and cognitive psychologist does not yet emphasize codes as structures of communities. He is probably on the forefront of psychology in the late 1950’s, however, in his appreciation of both Piaget and Vygotsky.

The Russian emigrée Evgenia Hanfmann at Brandeis had asked Bruner to write a preface to her translation of Vygotsky’s *Thought and Language* (1962). Here Bruner discovered what enables the child to gain control, namely the “zone of proximal development” (Bruner, 1983, p. 139). The child takes advantage of hint from others. Here was an opening for the role of context and culture. He also remains focused on a practical educational theory rather that educational structures. He seems to admire Leslie A. White, whose “evolution of minding” opposed the particularism of Franz Boas, the dominant voice in anthropology. White strove to describe systems, in the style of Wundt and Tyler, rather than features of particular cultures.

***11/19/65***

*Mrs. Fisher Greenfield*

*Cross-cultural material looked at now, at outset, in study of development and limitations.*

*Culture & cognition; environment & heredity, development depends on natural factors or unfolding acts.*

*Anthropologists tend to study products of culture*

 *“Primitive” implies phylogenetic correspondence to ontogenetic*

*Cultural relativism says we should throw out distinction*

*Ethnoscience studies indigenous domains using language of that domain (rather than imposing your terms)*

 *Still dealing more with products than processes. Where do they come from?*

 *Nature-nurture test of psychologist: verbal tests of 1930s and later performance tests, worse than anthropologists.*

 *You assess not intellectual processes occurring during test but only products.*

*Two possibilities*

 *Artificial experiment, introduce difference, assess effect by test.*

 *Natural experiment, observe*

*Senegal experiment*

*How experimental techniques would interact with preliterate natives*

*Two kinds of invariants: a) imposed by environment, e.g. invariance of continuous quantity b) human environment, e.g., see variances in functional differences across differences in perceptual properties*

*No definite purpose, classification problem relatively arbitrary. Maybe should have, in order to make sense. i.e., first distinguished from means of transportation*

*Experiment from Piaget*

1. *Pour water into two beakers…*
2. *Wanted to break culture into variables: urbanization, schooling, language. 3 milieus.*
3. *Bush village children who did not go to school*
4. *Same rural environment plus schooling, good control opportunity*
5. *Urban children with schooling*

*Cross-cultural and developmental*

*3 age groups: 6-7, 8-9, 11-13 year olds, 1, 3, 6 graders*

*Difficult to find age of group, but age minor factor*

*Is there solution on basis of intelligence regarding who goes to school.*

*Problem: word for amount and level same, must modify*

*Ask afterwards why (you think) that is true. But non-school children don’t distinguish thought about something and thing itself. Implies lack of self-consciousness.*

*African personality*

*Collective spirit, as opposed to Western individual spirit. Social problem from Western egotism*

*Results*

*Bush-schooled - without school, conservation stops relating to age*

*Bush-unschooled*

*Urban-schooled.*

*Development may stop if you don’t go to school. Contradicts Piaget*

*Reasons divided into 3 types*

1. *perceptual, e.g., same because same level*
2. *action e.g., “ “ “ “ you just poured*
3. *transformational indirect action, if you were to pour it back. Or identity reason same because you originally observed. Identity is the only real reason.*

*Development of reasoning*

*With school, perceptual reasons decrease*

*Without school, perceptual reasons increase (one’s action)*

*More direct action reasons in children in Senegal*

*Action reasons against conservation there [in Senegal] never present in America. “Same because you poured it.”*

*Logical necessity not present there* [au: in Senegal] *as here* [au: in U.S.A.]; *“it has to be equal”*

*Techniques used to teach conservation, including screening from misleading perceptual interpretation*

1. *Put screen in front of. Not successful for Senegal children oriented to action rather than perceptual reasons.*
2. *Let child pour water, removes person with magical powers. On the whole, the children have conservation 52%, increases to 80%.*

*Primary group Age 6-8 Age 11-13*

*Posttest I 56% 100%*

*Posttest II 89% 100%*

*Indicates not case of misunderstanding world. Action reasons disappear, identity reasons increase. (Remember that he proved first two beakers …beginning). Shift in attention to crucial part of own actions.*

Patricia Fisher Greenfield gave two lectures in Bruner’s class in 1965 about her current research in Senegal. Greenfield introduced anthropology’s method saying it studies the “products of culture.” However, her own experiments forged new territory by examining the process. We can read the published version (1966) and a retrospective synopsis (1969, 1997). When replicating Piaget and Inhelder (1962) and Bruner (1965), she ran into silence from the subjects when she asked them “why do you think it is the same (or more or less)?” (1997, p. 1118) So she changed the question to “Why is the water the same (or more or less)?” Then the students gave her reasons. She concluded that they were exhibiting “an epistemology of mental realism.” This held for unschooled Wolof children but not for those with formal schooling. She noted the “action reasons” of these unschooled children: “The same because you poured it.” Had Greenfield not altered her questions, she would have concluded that the children were unable to explain their reasoning. By understanding their epistemologies, she was able to change her interview procedure.

***11/22/65* [au: Patricia Fisher Greenfield lectures again]**

*Inherence imposed on world by organism last time.*

*Question of present similarity of several things.*

*Psychological importance: make world into manageable size; equivalence groupings into classes of events*

*Also socio-cultural side*

 *Dissimilar things rendered equivalent*

 *Cultural world view*

*Cross-cultural similarity*

 *Process rather than product of forming judgments. What could be source?*

1. *Language & thought relations*

*Whorfian hypothesis – language is single most important determinant of thought of people.*

*Linguistic determinism – changed to linguistic relativity*

*Semantics & lexical level treated by Whorf, e.g., Eskimos have 3 words for snow. Need non-linguistic evidence of thought*

1. *Roger Brown: codification – no. of words needed to code a certain phenomenon in a language*

*phenomenon more codable more valuable*

1. *Ease in naming a stimulus influence. Case of remembering*
2. *Lantz & Clark brevity of verbal description corresponds with later facility in reproduction*
3. *Lantz & Stefflre - communication accuracy depends on context*

*So codability now relative to context in which stimulus appears*

 *Studies how 3 characteristics*

1. *Identity of a given stimulus. This time on memory.*
2. *Accuracy of distinctions within a certain domain*
3. *Not cross-cultural*

*Judgments of present similarity – another kind of study*

*Language determines choice of domain in Navaho language, obligatory to use different verb form depending on object*

*Navaho and English dominant groups. Former make more form classification; but both tend to make more form classification with age. Boston children resemble Navaho.*

*Does language-thought relation only hold within one language?*

*Bush, Dakar, and school groups again*

 *Also adult unschooled vs bush groups*

 *Task: pick pictures that are most alike*

 *Basis is (1) color (2) shape, i.e., form (3) function*

 *Clock orange banana*

 *Sandal suit banjo*

 *Bike hat ants*

*Wolof language*

1. *Color poorly coded by language (in cf. to French and English)*

*Hence use of French word for missing word in Wolof. No superordinate word*

1. *Rich language in verbs. Clothing is to wear, foods to eat, etc.*

*American language & children; Vygotsky in Russia*

*Perceptual attributes appear later and increase with age*

*Nominal attributes increase with age.*

*Would expect Wolof to pay attention to function*

*Results: unschooled children can use nothing but color; with age increase, better at making groupings. Color grouping decreases with age in city schools, while functional attributes increase. Not so clear with Bush schools.*

*Relation: lexical structures and choice of attributes. Could not say which classifies better*

*Accuracy of discrimination: color matching errors do seem related to language*

*difference in frequency of errors goes from most in Bush to least in bilingual, with monolinguals in between.*

*30% Wolof Bush 6% Wolof monolingual bilingual 0%*

*Error decreases with age*

*Implies perceptual discrimination increases with age, overcomes factors*

 *Other factors than lexicon are more effective; errors not that frequent and decrease with age*

 *The abstractions inherent in written language*

 *Spoken word at one remove, stands for something*

 *Written word at two removes, which stands for some…Vygotsky*

 *School is teaching out of context, says Bruner*

Linguistic determinism came from Edward Sapir and his student Benjamin Whorf and was originally illustrated by multiple words for snow in Eskimo Inuit language; a contemporary example is sexism inherent in the terms policeman, fireman, and male nurse. Bruner’s remark “3 words for snow. Need nonlinguistic evidence of thought” refers to the critique of Whorf by Roger Brown and Eric Lenneberg, “A Study in Language and Cognition” (1954). They argued that Whorf never showed “the relation between the linguistic phenomenon and a mental phenomenon” (“Linguistic relativity,” n.d.). Their subjects were asked to identify colors on a continuum. Cognitive “codability” was intersubjective agreement of the words they chose, hence relative to cognitions. DeLee Lantz (1963) manipulated and taught subjects names for colors. With Volney Stefflre, another postdoctoral student at Harvard, Lantz showed a causal relation between language and thought (Lantz & Stefflre, 1964). Then Greenfield demonstrated that colors were “poorly coded by [Wolof] language” in comparison to French and English. Language is thus a “communal tool kit that individuals in a speech community use to construct meaning” (Chiu, Leung, & Kwan, 2007), a theme in Bruner’s book *Acts of Meaning* (1990**).**

***12/17/65***

*Itch to know. Split between descriptive theory – after the fact. And prescriptive theory – permits to construct.*

*Gardiner (P. H. W) regrets deficiency of leaders*

*3 ways of knowing force you into proper malaise. We are forced into certain generic-ness.*

*We set out to explore perfectability of intellect, and 6 limitations on it.*

1. *Anything regarding perfectability must take into account limitations of information storing capacity*
2. *Experiences per se is no guarantee for perfect individual*
3. *Beyond experience, a strategy is necessary to organize, reduce, and assimilate experience.*
4. *For the pedagogue, this says we must take strategies into account*
5. *Change as a developmental state of child and [adult?]. We must fit this developmental state with teaching methods, e.g.*
6. *Responsibility for development of thinking as well as development of content lies partly on school. The how is (or should be) central.*
7. *Information organized in models; can generate extrapolation, interpolations.*
8. *Theory of mind must account for veridicality of these models and their appropriate use. Truth is where you can go with your model =. There must be much more emphasis on using models of what you know. Anti-clutter.*

*In future, more emphasis will be on syntactic nature of knowledge.*

 *Experiments by Crutchfield and Covington, “Creativity Training”*

*Comic book mysteries, provide chance to generate from cues what might have happened (extrapolation from data). Self-instruction booklets. Kids 10-11 yrs old. Effect of teaching models toward syntactic consciousness. Trained kids on school task problem solving. Twice as high, thanks to comic book (Lil Jim) practice; both in quantity and quality, organization increases capacity too. Trained kids notice discrepancies better.*

*Teaching - moving in direction of pattern of primate evolution, developing means of representation.*

1. *Increase in capacity for cumulative benefit from experience; evolution of primates and growth of human revolves on learning-to-learn mechanism.*
2. *Long maturation process. Humans compared to baboon.*
3. *Pedomorphism and selection pressures operate toward producing more foetal human beings; neotony. Suggest shift toward more helpless first stage which will accentuate importance of conditioning.*
4. *Skills learned go from play, to showing how to do, to telling out of context. Metaphoric tale, myths is widespread in primitive culture (and our?)*
5. *Languages seem to be universally learnable, translatable*
6. *Cleverness recognizable as universal characteristic, also falling in love, integrity, handicraft & toolmaking.*
7. *Beyond all this universality, unlocking of potential in all cultures depends on amplification systems which will make possible.*
8. *Man given responsibility for evolution; must avoid malaise, we should train everybody for role, nor should we adapt “nobody-touch-me” attitude since every group changes.*

*Nature of knowledge*

 *Scholar’s knowledge is theory construction*

 *Non-Newton outlook*

 *Enabled to move toward inspection of certain things. Codification. Less continuity between life of scholar and life of public*

 *Need drastic thinking in education.*

 *Baby knowledge must equip mind for modern world. Active to image to symbolic systems.*

 *Ways of conceiving knowledge take generation to sink in. People say, we’ve always done it our way, both before and after!*

This final class summed up a semester that reviewed anthropology and psychology for the ontogeny and phylogeny of thinking. Pedomorphism and upright gait went with larger cranial size, longer maturation, and “learning to learn mechanism.” The Senegal experiments showed that children can be taught to move from a realist epistemology to abstract thinking. From the future looking back, however, it was the dawning appreciation of telling stories that would become narrative psychology two decades later. As he lectured above, “4. Skills learned go from play, to showing how to do, to telling out of context.” Another hint of the future was “Metaphoric tale, myths... widespread in primitive culture (and our?).” Creativity Training experiments by Martin V. Covington & Richard S. Crutchfield (1966) had tested practical methods for inducing creativity, based on programmed instruction and comparing an experimental group of fifth and sixth graders with a control group. They included a “passive control condition” in which they listened to a story and a “rules only condition” in which the child received didactic training (Stein, 1974, pp. 188-189). The finding: instructed students show marked superiority in problem solving ability. But admittedly, “whether the experimental materials interfere with, facilitate, or fail to affect the development of traditional educational skills depends upon the way the teacher uses the materials and how well he pursues his usual goals” (Covington & Crutchfield, 1966, pp. 104-105).

Bruner would publish *Toward a Theory of Instruction* in the following year (1966). My impression is that narrative cultural psychology is not yet present in Bruner's thinking in 1965. But the discussions of ontogeny and phylogeny, of baboon compared to children’s thought, of children’s mental development, of Piagetian experiments in Senegal (Greenfield, 1966), of classification vs functional thinking, do point in the direction of cultural psychology.

Coda: How has Jerome Bruner been received in Cultural Psychology since 1965?

Emotions are described as cultural models with meanings and practices, i.e., not verbal propositions but ways in which persons constitute their world and make sense of their feelings in coordination with others (Bruner, 1986, 1990, cited in Mesquita & Leu, 2007). The meanings of a culture belong to our emotions even though emotions are hard-wired (Bruner 1986). Motivations too are expressed through different behaviors in different cultures (Bruner, 1990, cited in Heine, 2007). Culture is system and process, namely, systems of values, schemas, and scripts, as well as processes such as rituals and daily routines. Culture operates on families and individuals, regulating interpersonal and intrapersonal behavior. Memory is integral to expression of a self concept, and autobiographical memory has self-definition as its primary function. Memory functions as “development, maintenance, and expression of an enduring self-concept” (Bruner, 1990, quoted from Wang & Ross, 2007, p. 648).

Practice approaches to narrative mark an important turn in Cultural Psychology that was surely inspired by Bruner among others. He wrote that meaning must be negotiated; “this is one of the crowning achievements of human development” (Bruner, 1990, p. 67, quoted in Miller, Fung, & Koyen, p. 596). Participants can construct themselves or their identities through narrative (Bruner, 1990, cited in Miller et al, 2007, p. 598). “Western schooling … emphasizes practice in going beyond the information given,” or generalization (Connolly & Bruner, 1974, in Sternberg, 2007, p. 551). Western schooling teaches classification, such as that the robin is species of bird, rather than that robin is relatively easy to capture. With increasing Western schooling in Senegal, children learned to classify with taxonomic classification (Bruner, Olver, & Greenfield, 1966, cited in Sternberg, 2007, p. 356). Joan Miller noted that Bruner came to appreciate that meaning systems are already there: “When we enter human life, it is as if we walk on stage into a play whose enactment is already in progress – a play whose somewhat open plot determines what parts we may play and toward what denouements we may be heading” (Bruner, 1990, p. 34, quoted in J. G. Miller, 2007, p. 482).

I have selectively reviewed my lecture notes from Jerome Bruner’s course “Cognitive Processes” in the Fall 1965 for antecedents of cultural psychology. As seen in the handbook that I have cited throughout (Kitayama & Cohen, 2007), numerous authors drew from Bruner (1966, 1974 [with Connelly], 1986, 1990) for their remarks on emotions and motivation, language and cognitive style, memory and narrative. One author picks up his title “going beyond the information given” from Bruner’s chapter by that title (1973), and I do think this sums up Bruner’s dissatisfaction with behaviorism and cognitive psychology at the time. He was himself beginning to turn the corner toward a narrative approach to cultural psychology, but he had not coined the term or focused on meaning-making.

 The theme of narrative psychology proper began to emerge in the 1980s. Bruner credits the Sloan Foundation for a grant “to explore the nature of narrative as a mode of thought and as an art form” (1986, p. x). In a chapter on “The Transactional Self” (1987) in Bruner & Haste’s *Making Sense* (1987),Bruner concluded that we account for our actions and those around us through stories, and that this may constitute the heart of self as egocentric, private, unmediated (e.g., encounters of child with world), and tripartite (cognition, affect, action)(pp. 85, 94).

Bruner mentioned in *Acts of Meaning* (1990) that the Cognitive Revolution of the 1960’s had become “technicalized” through information science, computers and cognition in the 1980s; he proposed an “interpretive revolution” instead (1990, p. 2). Humans “do not terminate at their own skins, but belong to culture” – remarked Clyde Kluckholn (1990, p. 12). Cultural psychology is not cross-cultural psychology, the search for “a few parameters to account for local variations in universal laws of behavior” (p 20). “The reverse view that I am proposing is that it is culture, not biology, that shapes human life and the human mind, that gives meaning to action” (p. 34). Folk psychology, having survived a period as derisive term (e.g. Steven Stich, *From Folk Psychology to Cognitive Science*, 1983), came to include ethnomethodology and participant observation in which we begin with distinctions that normal people make in everyday life (p. 37).

In his own case study in *Acts of Meaning* (1990), Bruner participated with Dr. Susan Weisser in informal interviews of the George and Rosa Goodhertz family in Brooklyn, N.Y., explaining that they were interested in spontaneous autobiography and meaning-making. Literary and discourse linguistics were their guide, as they looked for “the revealing words, the signature expressions, the telltale grammatical forms” (p. 123). They were seeking narratives “not solely of personal meaning but of cultural cohesion.” This was a family “home” with shared intimacy, while “the family” was distinguished from “reality” out there (p. 132). Each family member told stories.

Was such a narrative method and cultural psychology in any sense foretold or predicated in the “Cognitive Processes” lectures of 1965? In some ways, yes. At Harvard Bruner had mingled with psychologist and anthropologists in his work toward a doctorate in 1941 and with Social Relations and Psychology Departments in his Center for Cognitive Studies from 1953 to 1970. It came natural for him to oscillate between cognitive developmental experiments and anthropological research. At Oxford during 1970 to 1977, he had become interested in grammar through conversations with ethologist Niko Tinbergen, leading to the book with Rita Watson, *Child’s Talk* (1983) about syntax and language use (*In Search of Mind*, 1983, p. 168). Chomsky’s Language Acquisition Device became a Language Acquisition Support System, comprising “strategies children use in attempting to accomplish things with language” (p. 173). Bruner traveled with and told stories with his own small children (p. 153), until divorce from Katherine “Kay” Frost in 1956.

In other ways, no, the narrative method was not present prior to the 1970’s. Even his admiration for Vygotsky, growing through friendship with Luria and his visit to Cambridge in 1960, was more about the Second System, whereby language gave children the power to solve problems “by converting them …into language” (p. 144). He visited Luria in Russia in 1962, and learned that the language of First Signal System and Second came from Pavlov, and that the Second Signal System was key to the rehabilitation of Vygotsky. Thus, Bruner’s interest in Vygotsky and language preceded his 1965 lectures, with their grounding in evolution. Yet his development of a narrative psychology couched in the making of meaning did not emerge until later in the 1970s and 1980s. And the book for which he became best known to cultural psychologists in the twenty-first century was *Acts of Meaning* (1990).

As I have demonstrated here, the very meaning of cultural psychology for Bruner changed continually over the decades. He was more interdisciplinary in the 1960’s, drawing from physical and cultural anthropology. Action, imagery, and symbol were tools he took from anthropology and psychology. He called for amplifiers of the mind from the problem solving literature (Newell, Shaw, & Simon, 1957), using it to build upon a cultural anthropologist (Levi-Strauss, 1963, 1965). “Once man reaches the point at which he depends on tools he is no longer depending on evolutionary adaptation through morphological change” (10/1/65). Bruner used Vygotsky to build on Piaget as well, noting that “language is the internalized linguistic form with external environmental effects which [the] Swiss School ignores” (10/8/65). He weighed the important debate over orthogenesis, the transmission of cultural changes through selection. (11/12/65). The Whorfian hypothesis requires mechanisms provided by codification (11/19/65, Brown & Lennenberg, 1954).

Always the innovator in education, Bruner invoked creativity methods for the classroom (Covington & Crutchfield, 1966). What impressed me as an undergraduate Bruner student, and still does, is his eclectic and practical approach. He was a synthesizer who was continually testing hypotheses across disciplines. He was also a collaborator; in this period he was finishing a book with Ruth Olver and Patricia Greenfield at the Center for Cognitive Studies (1966); Greenfield taught one of the weeks in the course I took and I daresay she sparked my own interest in cross-cultural experiment tested against Piagetian universals (Woodward, 1979) and in participatory action research (Woodward & Hetley, 2007).

*Bush-schooled - without school, conservation stops relating to age*

*Bush-unschooled*

*Urban-schooled.*

*Development may stop if you don’t go to school. Contradicts Piaget* (11/22/65).

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* Harper, R. J. C., Anderson, et al (Eds.)(1964). *The cognitive processes. A reader*. Englewood, NJ: Prentice Hall.
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