

Summer, 2002

VITA

Rochel Gelman

Psychology and Cognitive Science
Rutgers University- New Brunswick
152 Freylinghuysen Roald
Piscataway, NJ 08854-0820

Phone: 732 445 6154 (0635)
Fax: 732 445 6715
e-mail: rgelman@rucss.rutgers.edu

Education:

BA, 1963, University of Toronto, Toronto, Canada
MS, 1965, University of California, Los Angeles
Ph.D, 1967, University of California, Los Angeles

Awards and Honors:

Oustanding Mentor Award, Division 7, APA – Aug/03
Inaugural Fellow, Cognitive Science Society, 2002
Fellow, American Academy of Arts and Sciences, 1999-
William James Fellow, American Psychological Society, 1998-
Distinguished Scientific Contribution Award, American Psychological Association (APA),
1995
President, UCLA Psychology Alumni Association, 1994-95
Phi Beta Kappa, Foreign Member, UCLA, 1991
William Smith Term Professor, University of Pennsylvania, 1988-9
Visiting Scholar: (1) Penn Israel Exchange, Tel Aviv, Israel, May-June, 1987;
(2) Institute of Psychology, Beijing, China, November-December 1982
Society of Experimental Psychologists, elected 1982
Fellow, Center for Advanced Studies in the Behavioral Sciences, 1977-78;
1984-85 (Head, Project on Structural Constraints on Cognitive Development)
President of Division 7, APA, 1985-86
Fellow, APA, Divisions 3 & 7
Fellow, American Psychological Society
NICHD Senior Fellowship, 1984-85; 1977-79
Early Career Research Contribution Award, APA, 1976
Guggenheim Fellow, 1973-74
First Class Honours, University of Toronto

Positions:

2004 - Member, NSF Center for Learning and Teaching, Rutgers
2001- Co-Director, Rutgers Center for Cognitive Science
2000- Professor of Psychology & Cognitive Science, Rutgers University, New
Brunswick.
1989-2000 Professor, Psychology, UCLA,
2000- Emerita Professor, Psychology, UCLA
1999- Fall Visiting Professor, Rutgers Center for Cognitive Sciences, Rutgers

R. Gelman, Fall 03

- Dec 95- Jun 96 Visiting Scholar, Psychology, New York University.
1995-99 Director, NIH Training Grant in Developmental Cognitive Science,
1989-94 Chair, Developmental Area, UCLA.
1984-85 Fellow, Center for Advanced Study in the Behavioral Sciences, Palo Alto.
1981-82 Associate Dean, Graduate Office, School of Arts & Sciences, Univ. of Pennsylvania.
1968-89 Assistant, Associate ('72) & Full ('77) Professor, Psychology, Univ. of Pennsylvania.
1977-78 Fellow, Center for Advanced Studies in the Behavioral Sciences.
1974-81 Director of Graduate Studies, Psychology, University of Pennsylvania.
1973-74 Visiting Scholar, School of Social Sciences, University of California, Irvine.
1968 (summer), Visiting Assistant Professor, Institute of Child Development, University of Minnesota.
1967-68 Assistant Professor, Psychology, Brown University.

Professional Affiliations:

American Psychological Association, Divisions 3 & 7; American Psychological Society; Cognitive Science Society; Piaget Society; Psychonomics Society; Society for Research in Child Development.

Professional Activities:

Recent and Current Activities

(1.a) *Editorial Boards:* Applied Developmental Psychology, 2000- ; Cognitive Psychology, 1977- ; Mathematical Cognition, 1994-; Substratum, 1992-; Occasional Reviewer, Cognition, Cognitive Development, Psychological Science, Cognitive Science, Nature, NIMH, NSF, Canada Council, and comparable councils in Australia and Israel, W.T. Grant Foundation, NY; Carnegie Corp.; NY., NY; Spencer Foundation, NIMH B Start Program.

(1.b) *Co-Associate Editor:* (with Richard Lerner). *International Encyclopedia of Psychology, Developmental Sections*, Chief Editor, A. Kadzin, American Psychological Association.

(2). *Advisory Committees or Board Membership*

Psychology Department Visiting Committee, Harvard University, 2003-05

Governing Board, American Psychological Society, 1999-2002

IRB for Human Subjects, Rutgers University, June 2001-

Executive Committees, Center for Cognitive Science (F 2000-) and Department of Psychology (July 2001-2004/, Rutgers-New Brunswick

Long Range Planning Committee, Department of Psychology, Rutgers-New Brunswick

Child Care Committee, Department of Psychology, Rutgers-New Brunswick

Board of Behavioral, Cognitive, and Sensory Sciences, The National Research Council, May, 1997-

NIH Grant Review Panel, June 2001

Cornell Institute for Research on Children, 2001-

Developmental Review, Canadian Institute for Advanced Research 2002

Sample of Past Professional Activities

Committee, Preschool Pedagogy, The National Research Council, May 1998- 2000
Consultant, Keck Foundation Center for Math and Science, Crossroads High School, Santa Monica, California, Sept., 1996-2000
Committee on The Science of Learning, National Research Council (NRC), 1995-99
Child Care Services Advisory Board, UCLA ; Executive Committee, 1989-2000
UCLA Cognitive Science Research Program, UCLA, 1989 -2000
Advisory Committee, Institute of the Mind, National Learning Center, Children's Capitol Museum, Washington, DC, 1988-
Chair (1991-1999), Board of Visitors, LRDC, University of Pittsburgh; since 1978.
Board, Center For Museum Learning, (LRDC), Pittsburgh PA
Executive Committee of the International Union of Psychological Sciences (IUPsyS), 1989-96 and The United States National Committee (IUPsyS)1986-96
Member, External Review Committee, Psychology, Yeshiva, Fall 2000
Committee of Visitors, Program in Cognition and Perception, NSF, June 1996
Governing Council, Society for Research in Child Development, 1989-95
Co-Director (with L. Gleitman and A. Joshi) of Cognitive Science, University of Pennsylvania, 1980's.
Member of Extramural Scientific Advisory Board, NIMH, 1988-1992
Consultant, Franklin Institute of Science, Project on Conceptions of Science, 1986-89
Board of Directors, John Piaget Society, 1978-84, 1985-88

Publications and Manuscripts:

Books and Monographs

Gelman, R. and Au, T. (Eds.). (1996). *Cognitive and perceptual developmental. Vol. XIII. Handbook of perception and cognition.* (Eds.) E. Carterette and M. Friedman, Academic Press.
Carey, S. and Gelman, R. (Eds.). (1991). *The epigenesis of mind: Essays on biology and cognition.* Hillsdale, NJ: Erlbaum Associates.
Gelman, R. (1990). (Guest editor) *Cognitive Science*, 14(1): Title of volume: *Structural constraints on cognitive development.*
Gelman, R. and Gallistel, C. R. (1978). *The child's understanding of number.* Cambridge, Mass: Harvard University Press. Second printing, 1985. Paperback issue with new preface, 1986. Translated into Japanese (1989) and Italian (1988).
Trabasso, T. R. and Bower, G., with the collaboration of R. S. Gelman. (1968). *Attention in learning: Research and theory.* New York: Wiley. (A citation classic).

Papers and Chapters

Berlyne, D. E., Salapatek, P. H., Gelman, R. S., and Zener, L. S. (1964). Is light increment really rewarding to the rat? *Journal of Comparative and Physiological Psychology*, **58**, 148-151.

- Berlyne, D. E., Borsa, D. M., Craw, M. A., Gelman, R. S., and Mandell, E. E. (1965). Effects of stimulus complexity and induced arousal on paired-associate learning. *Journal of Verbal Learning and Verbal Behavior*, **4**, 291-299.
- Trabasso, T. R., Deutsch, J. A., and Gelman, R. S. (1966). Attention in discrimination learning of young children. *Journal of Experimental Child Psychology*, **4**, 9-19.
- Gelman, R. S. (1969). Conservation acquisition: A problem of learning to attend to relevant attributes. *Journal of Experimental Child Psychology*, **7**, 167-187. (repeatedly reprinted; a citation classic.)
- Gelman, R. (1970). A review of H. Furth's *Piaget and Knowledge* and Phillip's *The origins of intellect: Piaget's theory*. *American Scientist*.
- Gelman, R. (1971). Piaget and education. *Contemporary Psychology*, **16**, 312-313.
- Gelman, R. S. (1972). Logical capacity of very young children: Number invariance rules. *Child Development*, **43**, 75-90.
- Gelman, R. S. and Weinberg, D. H. (1972). The relationship between liquid conservation and compensation. *Child Development*, **43**, 371-383.
- Gelman, R. (1972). The nature and development of early number concepts. In H. W. Reese (Ed.), *Advances in Child Development*, **3**, New York: Academic Press.
- Shatz, M., and Gelman, R. (1973). The development of communication skills: Modifications in the speech of young children as a function of listener. *Monographs of the Society for Research in Child Development*, **38** (5, Serial No. 152).
- Gelman, R., and Tucker, M. F. (1975). Further investigations of the young child's conception of number. *Child Development*, **46**, 167-175.
- Goldin-Meadow, S., Seligman, M. E. P., and Gelman, R. (1976). Language in the two-year old. *Cognition*, **4**(2), 189-202.
- Gelman, R. (1977). How young children reason about small numbers. In N. Castellan, D. B. Pisoni and G. Potts (Eds.), *Cognitive Theory. Vol. 2*. Hillsdale, NJ: Erlbaum.
- Gelman, R., and Shatz, M. (1977). Appropriate speech adjustments: The operation of conversational constraints on talk to two-year-olds. In M. Lewis and L. Rosenblum (Eds.), *Interaction, conversation and the development of language*. New York: Wiley.
- Bullock, M., and Gelman, R. (1977). Numerical reasoning in young children: The ordering principle. *Child Development*, **48**, 427-434.
- Shatz, M. and Gelman, R. (1977). Beyond syntax: The influence of conversational constraints on speech modifications. In C. Ferguson and C. Snow (Eds.), *Talking to children: Language input and acquisition*. Cambridge, England: Cambridge University Press.
- Gelman, R. (1978). Counting in the preschooler: What does and does not develop. In R. S. Siegler (Ed.), *Children's thinking: What develops?* Hillsdale, N. J: Erlbaum.
- Gelman, R. (1978). Cognitive development. *Annual Review of Psychology*, **29**, 297-332.
- Bullock, M., and Gelman, R. (1979). Preschool children's assumptions about cause and effect: Temporal ordering. *Child Development*, **50**, 89-96.
- Gelman, R. (1979). Preschool thought. *American Psychologist*, **34**, 900-905. (Reprinted in 6 collections of readings and translated into Japanese.)
- Gelman, R. (1980). What young children know about numbers. *Educational Psychologist*, **15**,

- 54-68. (Translated into Chinese.)
- Gelman, R. (1980). Why we will continue to read Piaget. *The Genetic Epistemologist*, **8**, 1-3.
- Gelman, R., Bullock, M., and Meck, E. (1980). Preschoolers' understanding of simple object transformations. *Child Development*, **51**, 691-699.
- Gelman, R., and Spelke, E. (1981). The development of thoughts about animate and inanimate objects: Implications for research on social cognition. In J. H. Flavell and L. Ross (Eds.), *Social cognitive development: Frontiers and possible futures* (pp. 43-66). Cambridge, England: Cambridge University Press.
- Gelman, R. (1982). Basic numerical abilities. In R. J. Sternberg (Ed.), *Advances in the psychology of human intelligence: Vol. 1*. Hillsdale, N. J.: Erlbaum. (Translated into Japanese)
- Gelman, R. (1982). Complexity in development and developmental studies. In A. Collins (Ed.), 1980 *Minnesota Symposium on Child Development*. Hillsdale, NJ: Erlbaum.
- Gelman, R. (1982). Accessing one-to-one correspondence: Still another paper about conservation. *British Journal of Psychology*, **73**, 209-220.
- Bullock, M., Gelman, R., and Baillargeon, R. (1982). The development of causal reasoning. In Friedman (Ed.), *Development of time concepts*. New York: Academic Press.
- Starkey, P. and Gelman, R. (1982). The development of addition and subtraction abilities prior to formal schooling in arithmetic. In Carpenter, T. P., Moser, J. M. and Romberg, T. A. (Eds.), *Addition and subtraction: A developmental perspective*. Hillsdale, N. J.: Erlbaum.
- Gelman, R. and Baillargeon, R. (1983). A review of some Piagetian concepts. In J. H. Flavell and E. Markman (Eds.), *Cognitive Development: Vol. 3. Handbook of child development*. New York: Wiley.
- Gelman, R. (1983). Overview remarks on the transition from prelinguistic to linguistic communication. In R. Golinkoff (Ed.), *The translation from prelinguistic to linguistic communication: Issues and implications*. Hillsdale, N. J.: Erlbaum.
- Gelman, R. (1983). Recent trends in cognitive development. In J. Schierer and A. Rogers (Eds.), *The G. Stanley Hall Lecture Series, Vol. 3*, APA. Washington, D. C.
- Gelman, R., and Meck, E. (1983). Preschoolers' counting: Principles before skill. *Cognition*, **13**, 343-359.
- Gelman, R., Spelke, E. S., and Meck, E. (1983). What preschoolers know about animate and inanimate objects. In D. Rogers (Ed.), *The development of symbolic thought*. London: Plenum. (Translated into Japanese)
- Miller, K. and Gelman, R. (1983). The child's representation of number: A multidimensional scaling analysis. *Child Development*, **54**, 1470-1479.
- Gelman, R. (1983). Les bébés et le calcul. *La Recherche*, **14**, 1382-1389.
- Starkey, P., Spelke, E. S. and Gelman, R. (1983). Detection of intermodal numerical correspondences by human infants. *Science*, **222**, 179-181.
- Greeno, J. G., Riley, M. S. and Gelman, R. (1984). Conceptual competence and children's counting. *Cognitive Psychology*, **16**, 94-143.
- Resnick, L. B. and Gelman, R. (1984). Mathematical and scientific knowledge: An overview. In

- H. Stevenson and Q. C. Ching (Eds.), *Issues in cognition. Proceedings of a joint conference in Psychology: National Academy of Sciences/Chinese Academy of Sciences*. American Psychological Association, Washington, D. C.
- Gelman, R. (1985). The developmental perspective on the problem of knowledge acquisition: A discussion. In S. Chipman, J. Segal and R. Glaser (Eds.), *Thinking and learning skills. Vol. 2*. Hillsdale, NJ: Erlbaum.
- Starkey, P., Spelke, E. S., Gelman, R. (1985). Detection of number or numerosness by human infants: Reply to Davis et al. *Science*, **228**, 1222.
- Gelman, R., and Brown, A. L. (1985). *Early foundations of cognitive development*. (Center for Advanced Study in the Behavioral Sciences Annual Report). Palo Alto, CA.
- Gelman, R. (1986). Toward an understanding-based theory of mathematics learning and instruction, or, in praise of Lampert on teaching multiplication. *Cognition and Instruction*, **3**(4), 349-355.
- Gelman, R., and Brown, A. L. (1986). Changing views of cognitive competence in the young. In N. Smelser and D. Gerstein (Eds.), *Discoveries and trends in behavioral and social sciences* (pp. 175-207). Commission on Behavioral and Social Sciences and Education, Washington, DC: National Research Council Press.
- Gelman, R., and Meck, E. (1986). The notion of principle: the case of counting. In J. Hiebert (Ed.), *The relationship between procedural and conceptual competence*. Hillsdale, NJ: Erlbaum Associates.
- Gelman, R., Meck, E., and Merkin, S. (1986). Young children's numerical competence. *Cognitive Development*, **1**, 1-29.
- Kuzmak, S., and Gelman, R. (1986). Young children's understanding of random phenomena. *Child Development*, **57**, 559-566.
- Waxman, S., and Gelman, R. (1986). Preschoolers' use of superordinate relations in classification and language. *Cognitive Development*, **1**, 139-156.
- Feldman, H. and Gelman, R. (1987). Otitis media and cognitive development: Theoretical perspectives. In J. F. Kavanagh (Ed.). *Otitis Media and Child Development*. Parkton, MD: York Press.
- Gelman, R. (January, 1987). Commentary on Gelman's (1969) Conservation acquisition: A problem of learning to attend to relevant attributes. *Citation Classic, Current Contents/Social and Behavioral Sciences*, **20**(4): 14.
- Gelman, R., and Cohen, M. (1988). Qualitative differences in the way Down Syndrome and normal children solve a novel counting problem.(pp. 51-99). In L. Nadel (Ed.).*The psychobiology of Down Syndrome*. Cambridge, MA: MIT Press/Bradford Books.
- Gelman, R., and Massey, C. R. (1988). The cultural unconscious as contributor to the supporting environments for cognitive development. Commentary on Saxe, Guberman and Gearhart. *Society for Research in Child Development Monographs*. Serial No. 216, **52**, No.2 (pp. 138-151).
- Massey, C., and Gelman, R. (1988). Preschoolers' ability to decide whether a photographed unfamiliar object can move itself. *Developmental Psychology*, **24**(3), 307-317.
- Gelman, R., Cohen, M., and Hartnett, P. (1989). To know mathematics is to go beyond thinking that "Fractions aren't numbers". *Proceedings of Psychology of Mathematics*

- Education*. Volume 11 of the North American Chapter of the International Group of Psychology. Also published as a Technical Report in the UCLA Cognitive Science Research Program Series, UCLA-CSCR-90-5, (pp. 1-39).
- Gelman, R., and Greeno, J. G. (1989). On the nature of competence: Principles for understanding in a domain. In L. B. Resnick (Ed.), *Knowing and learning: Essays in honor of Robert Glaser*, (pp. 125-186). Hillsdale, NJ: Erlbaum Associates.
- Waxman, S. R., Chambers, D.W., Yntema, D.B., and Gelman, R. (1989). Complementary versus contrastive classification in preschool children. *Journal of Experimental Child Psychology*, **48**, 410-422.
- Gelman, R. (1990). Structural constraints on cognitive development: Introduction. *Cognitive Science*, **14**, 3-9.
- Gelman, R. (1990). First principles organize attention to relevant data and the acquisition of numerical and causal concepts. *Cognitive Science*, **14**, 79-106.
- Gallistel, C. R., and Gelman, R. (1990). The what and how of counting. *Cognition*, **34**, 197-199.
- Starkey, P., Spelke, E., and Gelman, R. (1990). Numerical abstraction by human infants. *Cognition*, **36**, 97-127.
- Gelman, R., and Meck, E. (1991). Premiers principes et conception du nombre. (Early principles aid initial but not later conceptions of number). In J. Bideaud, Cl. Miljac and J. P. Fischer (Eds.), *Les chemins du nombre*. Lille, France: Presses Universitaires de Lille. PP 211-234.
- Gallistel, C.R., and Gelman, R. (1991). Subitizing: The preverbal counting process. In F Craik, W. Kessen and A. Ortony (Eds.), *Essays in honor of George Mandler* (pp. 65-81). Hillsdale, NJ: Erlbaum Associates.
- Gallistel, C. R., Gelman, R., Brown, A., Carey, S., and Keil, F. (1991). Lessons from animal learning for the study of cognitive development. In S. Carey and R. Gelman, (Eds.), *The epigenesis of mind: Essays on biology and cognition*. Hillsdale, NJ: Erlbaum Associates.
- Gelman, R. (1991). Epigenetic foundations of knowledge structures: Initial and transcendent constructions. In S. Carey and R. Gelman, (Eds.). *The epigenesis of mind: Essays on biology and cognition* (PP 293-322). Hillsdale, NJ: Erlbaum Associates
- Gelman, R., Massey, C., and McManus, M. (1991). Characterizing supporting environments for cognitive development: Lessons from children in a museum. In J. M. Levine, L. B. Resnick, and S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 226-256). Washington, DC.: American Psychological Association.
- Starkey, P., Spelke, E. S., and Gelman, R. (1991). Toward a comparative psychology of number. *Cognition*, **39**, 171-172.
- Gallistel, C. R. and Gelman, R. (1992). Preverbal and verbal counting and computation. *Cognition*, **44**, 43-74
- Gelman, R and Meck, E. (1992). [English version of above, with an addendum]. Early principles aid initial but not later conceptions of number. In J. Bideaud, C. Meljac and J. P. Fischer (Eds.). *Pathways to number*. Hillsdale, NJ.: Erlbaum Associates. pp. 171-189; and addendum to book.

- Gelman, R. (1993). A rational-constructivist account of early learning about numbers and objects. In D. Medin (Ed.), *Learning and motivation*. Vol. 30. pp. 61-96. Academic Press: New York.
- Fowler, A. E., Gelman, R., and Gleitman, L. R., (1993). The course of language learning in children with Down Syndrome. In Tager-Flusberg (Ed.), *Constraints on language acquisition: studies of atypical populations*. pp. 91- 140. Hillsdale, NJ: Erlbaum.
- Gelman, R. (1994). Constructivism and supporting environments. In D. Tirosh (Ed.), *Implicit and explicit knowledge: An educational approach*. General Editor, S. Strauss, Vol. 6, New York: Ablex.
- Gelman, R. and Brenneman, K. (1994). First principles can support both universal and culture-specific learning about number and music. In L. Hirschfeld and S. Gelman (Eds.), *Mapping the mind: domains, culture and cognition*. Cambridge, England, New York: Cambridge University Press.
- Gelman, R., Durgin, F. and Kaufman, L. (1995). *Distinguishing between animates and inanimates: Not by motion alone*. In D. Sperber, D. Premack, and A. Premack, (Eds.), *Causality and Culture*: Oxford, Eng: Plenum Press.
- Gelman, R. and Lee Gattis, M. (1995). Trends and developments in educational psychology in the United States. In *Recent trends and developments in educational psychology: Chinese and American perspectives*. UNESCO Publishing: Paris, France.
- Gelman, R, Meck, G., Romo, L, Meck, B., Francis. W, and Fritz, C.O., (1995). Integrating science concepts into intermediate English as a second language (ESL) instruction. In R. F. Macias and R. Garcia-Ramos (Eds.). *Anthology of the Linguistic Minority Research Institute, Vol. 1.*, Santa Barbara and Santa Cruz, Univ. of California.
- Brenneman, K., Massey, C., Machado, S. and Gelman, R., (1996). Young children's plans differ for "writing" and drawing. *Cognitive Development*, **11**, 397-419.
- Gelman, R. (1997). Constructing and using conceptual competence. *Cognitive Development*. **12**, 305-313.
- Gelman, R. and Williams, E. (1998). Enabling constraints for cognitive development and learning: Domain specificity and epigenesis. In D. Kuhn and R. Siegler, (Eds.). *Cognition, perception and language. Vol. 2. Handbook of Child Psychology (Fifth Ed)*. (pp. 575-630). W. Damon, Editor-in-Chief; New York: John Wiley and Sons.
- Gelman, R. (1998). Domain specificity in cognitive development: Universals and nonuniversals. In Sabourin, M., Craik, F. and Robert, M. (Eds.) *Advances in psychological science: Vol. 2. Biological and cognitive aspects*. Hove, Eng: Psychology Press Ltd. Publishers.
- Hartnett, P. M., & Gelman, R. (1998). Early understandings of numbers: Paths or barriers to the construction of new understandings? *Learning and Instruction: The Journal of the European Association for Research in Learning and Instruction*, **8**(4), 341-374.
- Gelman, R. (1998). Cognitive development. In H. S. Friedman, (Ed.), *International Encyclopedia of Mental Health, Vol. 1*. (pp. 489- 498). San Diego, CA: Academic Press.
- Gelman, R. (1998). Cognitive development. In Wilson, R. and Keil, F. (General Editors),

- Electronic version (<http://mitpress.mit.edu/MITECS/work/gelmanr.html>) is posted in *The MIT Encyclopedia of Cognitive Sciences*. Cambridge, MA: The MIT Press.
- Printed version, in press (1999), Cambridge, MA: MIT Press/Bradford Press.
- Gelman, R. (1997, 1998). Intuitive mathematics. In Wilson, R. and Keil, F. (General Editors),
Electronic version (<http://mitpress.mit.edu/MITECS/work/gelmanr.html>) is posted in
The MIT Encyclopedia of Cognitive Sciences. Cambridge, MA: The MIT Press.
- Printed version, in press (1999), Cambridge, MA: MIT Press/Bradford Press.
- Joram, E., Subrahmanyam, K., and Gelman, R. (1998). Measurement estimation: Learning to map the route from number to quantity and back. Summer. *Journal of Educational Review*.
- Whalen, J., Gallistel, C. R., & Gelman, R. (1999). Non-verbal counting in humans: The psychophysics of number representation. *Psychological Science*,
- Subrahmanyam, K, Gelman, R, and Landau, B. (1999). Shape, material and syntax: interacting forces in the acquisition of count and mass nouns, *Language & Cognitive Processes*,
- Gallistel, C.R. & Gelman, R. (2000). Non-verbal cognition: from reals to integers. *Trends in Cognitive Science*, **4**, 59-65.
- Gelman, R. (2000) Domain specificity and variability. **71**, 854-856, *Child Development*.
- Gelman, R. (2000). The epigenesis of mathematical thinking. *Journal of Applied Developmental Psychology*. **21**, 27-37.
- Fritz, C. O., Morris, P. E., Bjork, R. A., Gelman, R. & Wickens, T.D. (2000). When further learning fails: Stability and change following repeated presentation of text. *British Journal of Psychology*, **91**, 493-511
- Cordes, S., Gelman, R., Gallistel, C.R., & Whalen, J. (2001) Variability signatures distinguish verbal from non-verbal counting—even in the small number range. *Psychonomics Bulletin & Review*, **8(4)**, 698-707.
- *Gelman, R., and Cordes, S. A. (2001). Counting in animals and humans In E. Dupoux (Ed.). *Cognition*, Cambridge, MA: MIT Press.
- Subrahmanyam, K and Gelman, R, in collaboration with A. Lafosse (2002) Animate and other separably moveable things. In E. Fordes. and G. Humphreys. (Eds.) In *Category-Specificity in brain and mind*. London Eng.: Psychology
- Gelman, R., Romo, L.& Francis, W. (2002). Notebooks as windows on learning: The case of a science-into-ESL program. In N. Granott and J. Parziale (Eds.) *Microdevelopment*. pp. 269-293. Cambridge, Eng: Cambridge Univ. Press.
- Gelman, R. (2002). Animates and other worldly things.(pp.75-87). In Stein, N., Bauer, P., and M. Rabinowitz (Eds). *Representation, Memory, and Development: Essays in Honor of Jean Mandler*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Gelman, R. (2002). Cognitive development. In Pashler, H., & Medin, D.L. Stevens' *Handbook of Experimental Psychology, Third Edition, Vol.2*. Wiley: New York.
- Gelman, R. & Lucariello, J. (2002). Learning in cognitive development. In Pashler, H. & Gallistel, C.R. *Stevens' Handbook of Experimental Psychology, Third Edition, Vol.3*. Wiley: New York.
- Francis, W. S., Romo, L. F., & Gelman, R. (2002). Syntactic structure, grammatical accuracy, and content in second-language writing: An Analysis of

R. Gelman, Fall 03

- skill learning and on-line processing. In R. R. Heredia & J. Altarriba (Eds.), *Bilingual Sentence Processing*. Elsevier Science Publishers.
- Gallistel, C.R., Gelman, R. & Cordes, S. (In press). The cultural and evolutionary history of the real numbers. In a Fyssen Foundation volume on *Culture and Evolution*.
- Gelman, R., & Brenneman, K. (in press). Relevant pathways for preschool science learning. *Early Childhood Quarterly Review*
- Zur, O. & Gelman, R. (in press). Doing arithmetic in preschool by predicting and checking. *Early Childhood Quarterly Review*
- Cordes, S. & Gelman, R. (in press). The young numerical mind: What does it count? In Campbell, J. (Ed). Handbook of mathematical cognition.
- Gallistel, C.R. & Gelman, R. (in press). Mathematical cognition. In (Ed.). K. Holyoak & R. Morrison. *Cambridge handbook of thinking and reasoning*. New York, NY : Cambridge University Press.

Manuscripts

- Grinstead, MacSwan, J., Curtiss, S and Gelman, R. (under review). The independence of language and number. (Paper based on one presented at the BU Child Forum)
- Joram, E., Bertheau, M, Gabriele, J. A., Gelman, R. and Subrahmanyam, K. (under review). Using reference points and the mental number line to teach measurement estimation. *Journal of Research in Mathematics Education*.

Other Writings/Products/Drafts

- Subrahmanyam, S. Reich, R. Gelman (draft). Not by Counting Alone: Children's Use of Number and Mass Information When Making Judgments of Quantity
- Subrahmanyam, K. Pinon, D., Gelman, R. (draft). Not by shape alone: Children's inferences about material-function links about simple artifact categories. Under review,
- Brenneman, K., Williams, E., Gelman, R., Macdonald, G., Woods, S., S. Reich, (Draft, 2001). *Preschool pathways to science: A guidebook*. Draft. Revision to include follow-up and transfer effort lead by S. Reich, S. Wood and R. Gelman.
- Meck, G. H., in collaboration with Gelman, R. et al. (1993). *Interrelated science concepts in English as a Second Language: A science content text for intermediate level ESL instruction*. First version of a curriculum designed to embed science instruction in ESL classes for 9th grade students in a Los Angeles School. UCLA.
- Gelman, R., Massey, C., Massey, K, McManus, M. (1987-9). In Collaboration with Please Touch Museum, Philadelphia, PA. *Try It Gallery*. An exhibit designed to introduce mathematics and science at levels suitable for children aged 7 years or less and the adults who accompanied them.
- Gelman, R. (June, 1991). *The active mind*. Address to the 1991 Phi Beta Kappa Initiates, Chapter Eta, UCLA. (Addresses given by honor electees are published at UCLA).
- Dapretto, M., Bjork, E. L., and Gelman, R. (unpublished draft). Comprehension vs. production: A valid index of early lexical development.

Recent Talks (*Invited). (Need to fill in the titles and dates)

R. Gelman, Fall 03

Gelman, R (2004). Congress of the International Union of Psychological Sciences, Beijing, China.

*I will chair a symposium on New ideas about learning and development

* I will co-chair (with Giyoo Hatano) an APS sponsored symposium on “Doing international collaborative research “

*I am a speaker in a symposium on research contributions to early education.

Gelman, R. (2004). TBA, University of Toronto, March, 2004.

Brenneman, K., & Gelman, R. (2003). Young children distinguish between look-alike photos of real and fabricated animals. Meeting of the Psychonomics, Society. Vancouver, Nov.03.

*Massey, C., & Gelman, R. (2003). *Cognitive science and math learning*. Seminar of the Center for Learning and Teaching, October, 2003, Rutgers University

*Gelman, R. (2003). Princeton University, Spring, 2003.

* Gelman, R. (2003). *Secrets of the Infant Mind: Mental Structures and Early Learning* – Stanford University, January, 2003. (In a series on new views about learning).

*Gelman, R. (2003), Numerical knowledge. Presented at the Brocton, MA OECD’ Literacy and numeracy meeting, February, 2003.

Papafragou, A., Hurewitz, F., Gleitman, L. R., Gelman, R. (2003). Number/quantifier asymmetries in language acquisition. The Linguistic Society of American

*Gelman, R. (2003). Numbers in the child’s mind. Part of an invited symposium at the British Association for the Advancement of Science, Lancaster, En, Sept’03.

Hurewitz, F., Gleitman, L.R., & Gelman, R. (2002). Boston Child Language Meeting, Boston University, Boston, MA. Feb., 2002.

*Gelman, R. (2002). *Suitable math learning experiences*. Early Math Conference, Rutgers Univ., Piscataway, NJ., July 2002.

*Gelman, R., Gallistel, C.R., & Cordes, S. (February, 2002), *Counting and Arithmetic Reasoning*, Psychology, Harvard

*Gelman, R. (2002). *The arithmetic mind*. Yale,

*Gelman, R. (2002) *Counting and Arithmetic Reasoning*, Psychology, University of Connecticut, May, 2002

*Gelman, R. (2002) *On Animates and Other Worldly Things*: Macquarie University, Psychology Dept, Sydney Australia, July, 2002

*Gelman, R. (2002) *Innate learning and beyond: The case of numerical cognition*. The University of Canberra, Philosophy Department, July 2002.

* Gelman, R. February, 2002, *Innate learning*. John Hopkins Univ., Baltimore

*Gelman, R. (2002). May, 2002, Presentation in the conference on Innateness, Sheffield, England

*Gelman, R. (2002). *Accidents, mentors, and passion*. Presented in a Symposium on Distinguished Female Psychologists, August, 2002, American Psychology Association.

Cordes, S. & Gelman, R. (2001). *Counting while talking*. Poster presented at APS Convention, Toronto, Can., June 2001.

Zur, O.& Gelman, R. (2001). *Relation Between Addition and Subtraction*. Poster presented at SRCD, Minneapolis, MN, April, 2001.

Lavin, B., Gelman, R., & Galotti, K. (2001). *When children are the experts and adults the novices: The case of Pokeman*. Poster presented at APS, June, 2001.

Lavin, B., &Gelman, R. (2001). *The development of biological concepts*. Poster presented at

- SRCD, April, 2001.
- * Gelman, R. (2001). Round table discussion of continuity and noncontinuity in development. Symposium in Honor of Jacques Mehler, Paris, France, May, 2001
 - *Gelman, R. (2001). Continuity and noncontinuity in development: The case of number. Address at the 5th International Boston University Conference on Cognitive and Neuroscience, Boston, MA. June, 2001.*Speaker at Roundtable on the pre-release of the NAS book “Eager to Learn: Educating Our Preschoolers”. Public Education Institute, Rutgers University, October, 19, 2000.
 - *August, 2000. Application of research on early cognitive development to education. XXVII International Congress of Psychology, Stockholm, Sweden. Invited contribution to a Symposium organized by Professor Cigdem Kagiitcibas of Turkey.
 - * August,, 2000, *Symposium Organizer and Presenter, Update on models of quantitative thinking*. XXVII International Congress of Psychology, Stockholm, Sweden.
 - * The ontogeny of numerical abilities. Invited Address, Western Psychological Association, Portland, Oregon. Spring, 2000..
 - *The Second Norman Anderson Distinguished Speaker, *The ontogeny of number concepts*, Psychology Department, University of California, San Diego, May 1999.
 - * October, 1998, *Who Counts? How and When?* "What is Cognitive Science? Series at the Rutgers Center for Cognitive Science, Rutgers Univ.
 - *October, 1998, *Doing experiments with understanding depends on knowing enough about why, what and how to ask*. Hughes Program Directors' Meeting, April, 1998, *The Development of the Number-Size Stroop Effect*, Society of Experimental Psychologists, Laguna Beach, CA.
 - *April, 1998. Invited discussant. for Symposium on number abilities in infants, International Society for the Study of Infants, Atlanta, Georgia.
 - *April, 1998, *Early Mathematical Competencies*. Mathematical Cognition Conference, Organized by Dan Berch, PhD., Child Development and Behavior Branch National Institute of Child Health and Human Development
 - *June, 1998, NIMH The Epigenesis of Mathematical Thinking. A lecture in the Behavioral and Social Sciences Seminar Series.
 - *April, 1998, *Cognitive Development: Secrets of the Minds of Infants and Young Children*. Presented at The 8th Annual Early Childhood Policy Issues Conference: Developing Minds of Young Children., UCLA, Los Angeles.
 - *April, 1998, *On Teaching for Conceptual Change*. Keck Institute for Math and Science. Crossroads High School, Santa Monica, CA.
 - February, 1998, *Why is it hard to learn science?* In AAAS Symposium, Philadelphia, PA, Using Research to Advance Science Education, Organizers, George D. Nelson and Mary R. Koppall
 - *February, 1998, *The development of number concepts*. Part of a guest colloquium series on Developmental Cognitive Science, Cognitive Science Center, Ohio State University.
 - *September, 1997. *Number as a natural domain*. Department of Educational Psychology, University of Delaware
 - *Sept, 1997. *The cognitive development of Robert Glaser*. LRDC, University of Pittsburgh.
 - *Sept, 1997. *Number as a natural domain*. Rutgers University Cognitive Science Center.

R. Gelman, Fall 03

- *April, 1997. Public lecture - *Early numerical concepts*: Also taught and spent day with undergraduates interested in cognitive development, Carleton College, MINN. Distinguished Visitor Program.
- *May, 1997. *Cognitive development and learning*. Invited address for the American Psychological Society's Institute on the Teaching of Psychology, Washington, DC.
- *March, 1997, *Relating early learning about math and science to later efforts to learn in these domains*. Univ. of California Symposium, Irvine Campus, NAS.
- *September, 1996, *The epigenesis of mathematical thinking*. Workshop on the Sciences of Learning Science: An Interdisciplinary approach. Washington, DC., NAS
- *Jan., 1997, *A seminar on conceptual coherence*. For High school math and science teachers in the Institute. Crossroads High School Keck Institute for Math and Science. Santa Monica, CA.
- *July, 1996, *The epigenesis of mathematical concepts*. Scientific Contribution Award Address, Toronto, Canada.
- *July, 1996, *Theory change about conceptual development*. Presentation in Presidential Symposium 1: Fifty years of theory and research on thinking and learning. American Psychological Association, Toronto, Canada.
- Aug., 1996, *Cognitive Development; Domain Specificity and Cultural Variation*. State of the Art Address, International Congress in Psychology, International Union of Psychological Science, Montreal, Canada
- *Apr, 1996, *The epigenesis of the concept of number*. Colloquium, Psychology, Columbia University.
- *Mar, 1996, *Principled learning about number*. Colloquium, Psychology Department, New York University.
- *Sept, 1995, Keio University, Japan, *Going Beyond Initial Understandings of Number*.
 1. Keio University, Special Address to Cognitive Science, 1995.
 2. Seminar on Developmental Research at institutions in and around Tokyo,
- *August, 1995, *Cognitive Development: Domain Specificity is not Inconsistent with Cultural Variation*, Asian-Pacific Regional Conference on Psychology: International Union of Psychological Science, Guangzhou, People's Republic of China.
- *Feb, 1995, *The innate foundations of mathematical and biological concept acquisition in children*. In symposium entitled *Instincts to Learn*, AAAS, Atlanta, Georgia.
- *Dec., 1994, Invited Instructor, *Institute on Mathematical Cognition*, Trieste.
- *June, 1994, Discussion participant for closing panel symposium on the *Emilio Reggio Preschool System*: Children's Capitol Museum, Washington, DC.
- *Feb, 18- 27,1994, Center for Research in Cognitive Science, University of Pennsylvania, (a). *First principles of number as bridges or obstacles to further learning*. and (b). *Early counting principles: errors do not rule out the use of principles*.
- *Mar, 1994, *First principles of number as bridges or obstacles to further learning*. Joint colloquium: Univ. of Chicago and Northwestern Univ.
The attribution of animacy: not by motion alone. Joint NWU and Chicago Faculty/Grad Student seminar.
- *Feb, 1993, *Using what you know to learn more (or less) about math*. Symposium on Mathematics Learning. Taiwan.

R. Gelman, Fall 03

- *Winter, 1993, *Early knowledge about numbers: sometimes it helps and sometimes it hurts later learning*. Colloquium, Psychology Department, Riverside, CA.
- *Spring, 1993, *Some current issues in cognitive development*. Claremont Graduate School; Psychology Department.
- * Spring, 1993, Guest seminar in a proseminar on Developmental Psychology at the University of Southern California, Los Angeles, *The state of the art and future in cognitive developmental..*
- *Spring, 1992, *Early learning and conceptual change*. Department of Cognitive Science, University of California, Irvine.
- *Dec, 1992 (with F Durgin, F), *Distinguishing between animates and inanimates*. Fyssen conference on Causality and Culture. Paris, France.
- *Feb., 1992. *Research and reform in mathematics education*. The Center for the Study of Education and Child Development in a Diverse Society, UCLA Graduate School of Education, Corrine A. Seeds University Elementary School and Center for Research on Evaluation, Standards and Student Testing.
- *Aug. 1992. All at the International Congress of Psychology, Brussels.
Invited Chair of symposium : Perceiving and thinking about causes; A Symposium in honor of Michotte.(Own paper: *Early causal reasoning, not just perception.*).
- *Aug., 1991, *Rational constructivism: Number as an example*. Hazen Symposium on Cognitive Neuroscience and Development, UCLA.
- *June, 1991, *Transcending initial conceptual frameworks can be difficult: The case of number*. American Psychological Society, Washington, DC.
- *Winter, 1991, *Where is the field going?* Seminar, Developmental Program, Psychology, Stanford University.
- *Spring, 1991, *On Children's Museums*. Seminar participant with other developmental psychologists, teachers and children's museum directors. Indianapolis, IN.

Current/Recent Research Grants

- What is dyscalculia: A collaborative study*. James S. McDonnell Foundation, Sept 03-Aug 06
- Domain-specific and domain-general mechanisms of learning*. Pending, NSF competition for Science of Learning Centers. Lead PI with 4 other PI's.
- Training grant in visual perception, language and learning*. Pending Renewal proposal under review. NIMH.
- Learning in complex environments by natural and artificial systems*. NSF LIS Initiative. Oct '97-Sept 2002. (with 8 other Co-PI's).
- Studies in cognitive development*: NSF, Aug'92 -Aug'99. (RUE add-on for study of misunderstanding of diseases mechanisms.)
- Training grant in developmental cognitive science*. NIMH (July'95- June '2001).
- Studies of cognitive development*. NSF, 95-02.

Former Ph.D. Students.

At Pennsylvania

- 1970 - Michael D'Antonio, Delaware Valley SIDS Resource Center: Children's Hospital of Philadelphia.
- 1973 - Ellen M. Markman, Terman Professor, Psychology, Stanford University.
- 1973 - Daniel Osherson, Professor, Psychology and Cognitive Science, Rice University.
- 1975 - Heidi Feldman ('75 Ph.D.; '79, MD.), Professor of Pediatrics, University of Pittsburgh. Holds a Chair
- 1975 - Susan Goldin-Meadow, Irving B. Harris Professor of Psychology, University of Chicago.
- 1975 - Jill Moscovitch, Senior Educational Psychologist, School Board, City of Toronto, Toronto, Canada.
- 1975 - Marilyn Shatz, Professor, Psychology and Linguistics, University of Michigan.
- 1977 - Marsha Weinstein, Professor, Psychology, Salem State College, Mass.
- 1979 - Merry Bullock, Associate Director, Science Directorate, American Psychological Association, Washington, D.C.
- 1981 - Renée Baillargeon, Professor, Psychology, University of Illinois, Champaign-Urbana.
- 1983 - Sylvia Kuzmak, Research Scientist, Bell Laboratories, Whippany, NJ.
- 1985 - Sandra Waxman, Professor, Psychology, Northwestern University.
- 1987 - Anne Fowler - (Co-Advisor, L. Gleitman). Senior Researcher, Haskins Laboratory, New Haven Connecticut.
- 1988 - Christine Massey, Director, PENNLincs, Institute for Cognitive Sciences, University of Pennsylvania.
- 1990 - Jason Macario, Consultant, San Francisco.
- 1991- Patrice Hartnett, Lecturer, Providence College, Rhode Island.

At UCLA

- 1993 - Kaveri Subrahmanyam, (Co-Advisor, Barbara Landau), Associate Professor, California State University, Los Angeles.
- 1994 - You-kyung Song (Co-advisor, Terry Au). Saehan Information Company, Korea.
- 1995 - Catherine Fritz (Co-advisor, R. Bjork), Lecturer Hull University, England.
- 1996- Kimberly Brenneman, Researcher, Rutgers
- 1998- Aaron Yarlas, Postdoctoral Fellow in Cognitive Science, Ohio State University.
- 1999- Paula Arvedson, (Co-Chair, Robert Hodos, Grad. Education, UCLA), Joint Program UCLA Grad School of Ed and California State, Education), Assistant Professor, California State University, Los Angeles.
- 2000 - Denise Pinon – Reseacher, Austin Public School System, Austin, TX
- 2000 - Earl Williams – Vice President, Computer company in San Diego; Dissertation selected as best in PhD class at UCLA; APA, Division 7 Best Dissertation, 2001

Postdoctoral Level Fellows

Were at Pennsylvania

- Dr. Diane Cuneo - from Psychology, UCSD, Assistant Dean, Vassar

R. Gelman, Fall 03

- Dr. Prentice Starkey (with Elizabeth Spelke)- From the University of Texas, Austin.
Professor, Education, Berkeley
Senior Scholars
- Dr. Fang Fu Xi - Exchange Fellow, Director, Child Development, Institute of Psychology,
Academica Sinica, Beijing, The People's Republic of China
- Dr. Roberta Golinkoff (from Delaware), Professor of Education and Psychology, University of
Delaware
- Dr. Nora Newcombe (from Temple University), Professor of Psychology, Temple,
Philadelphia
- Dr. Michael Siegal - From Psychology, Queensland, Australia; Senior Lecturer, Sheffield
University, Psychology, Eng.

Were at UCLA

- Dr. John Whalen (with C. R. Gallistel) - From The Johns Hopkins University, Assistant
Professor, Psychology, University of Delaware
- Dr., Elana Joram, From the Learning Research and Development Center, University of
Pittsburgh, Associate Professor, Department of Educational Psychology and
Foundations -- University of Northern Iowa
- Dr. Kaveri Subrahmanyam - From UCLA, Psychology, (see above)

At Rutgers

- Dr. Felicia Hurewitz – Ph.d from Penn
2001-

Current graduate students and their research topics