

**Curriculum Vitae  
Gilbert Gottlieb**

**EDUCATION:**

<u>Degree</u>	<u>Institution</u>	<u>Field</u>	<u>Year</u>
A.B.	University of Miami (FL)	Psychology	1955
M.S.	University of Miami (FL)	Psychology	1956
Ph.D.	Duke University	Psychology	1960

**PROFESSIONAL POSITIONS:**

Research Associate in Medical Psychology, Duke University Medical Center, September 1958 to October 1959.

Clinical Psychologist, Dorothea Dix Hospital, Raleigh, N.C., November 1959 to January 1961.

Assistant Professor to Professor (adjunct appointment), Psychology Department, North Carolina State University at Raleigh, September 1961 to December 1972.

Research Professor (adjunct appointment), Psychology Department, University of North Carolina at Chapel Hill, July 1974 to July 1982.

Research Scientist, N.C. Division of Mental Health, Raleigh, N.C., January 1961 to July 1982.

Head, Psychology Department, University of North Carolina at Greensboro, August 1982 to June 1986.

Excellence Foundation Professor, Psychology Department, University of North Carolina at Greensboro, August 1982 to August 1995.

Research Professor, Psychology Department and Center for Developmental Science, University of North Carolina at Chapel Hill, August 1995 to present.

**BRIEF APPOINTMENTS:**

Visiting Lecturer, Institute of Child Development, University of Minnesota, Summer 1975.

Visiting Scholar, Centre for Interdisciplinary Research, University of Bielefeld, Germany, Fall 1977.

Distinguished Visiting Professor, Psychology Department, University of Colorado at Boulder, Summer 1985.

Visiting Fellow, The Neurosciences Institute, San Diego, Spring 1996.

Visiting Professor, Duke University, Durham, Spring 1998, 2000, Fall 2001.

Kenan Visiting Professor, Meredith College, Raleigh, Spring 2000.

**MEMBERSHIP IN SCIENTIFIC SOCIETIES:**

AAAS (fellow)

Animal Behavior Society (fellow)

International Conference on Infant Studies

International Society for Developmental Psychobiology (past president)

**INTERNATIONAL SERVICE:**

Guest of Czechoslovak Academy of Sciences, Prague (August 1967).  
Advisor to German National Science Foundation on establishment of Developmental Neural and Behavioral Genetics Program (1977).  
International Planning Committee, Bielefeld University Interdisciplinary Project on Early Development in Animals and Man (1976-77).  
U.S. Delegate, International Ethological Congress Committee (1977 to 1983).  
President-elect, President, Past President, International Society for Developmental Psychobiology (1985 to 1988).  
Guest of the USSR Academy of Sciences, Moscow (April 1989).  
Organized Third International Institute on Developmental Science (May 2002).

**OTHER PROFESSIONAL ACTIVITIES:**

Research supported by NICHD (1962-1985), NSF (1985-1988), NIMH (1988-2003), NSF (2001-2006).  
Advisor, National Research Council, Committee on Basic Research in the Behavioral and Social Sciences (1984).  
Developmental Psychobiology Subcommittee, Behavioral and Social Sciences Planning Committee, Mental Retardation and Developmental Disabilities Branch, National Institute of Child Health and Human Development (1982-84).  
External reviewer on academic promotion and tenure:

<u>Psychology Departments</u>	<u>Psychiatry, Physiology, Neuroscience. Other</u>
Yale University	Harvard Medical School
Indiana University	Albert Einstein College of Medicine
Cornell University	College of Physicians and Surgeons, Columbia University
University of Washington at Seattle	City University of New York
University of Maryland	University of Florida Medical School
Duke University	University of Kentucky Medical School
University of Colorado at Boulder	University of Virginia Medical School
George Peabody College	Rutgers University among others
University of Missouri	
SUNY at Albany	
University of Florida	

Irregular reviewer of research and fellowship proposals:  
National Institute of Child Health and Human Development  
National Institute of Mental Health  
National Science Foundation  
National Research Council (Canada)  
Medical Research Council (England)  
Center for Advanced Study in the Behavioral Sciences

John Simon Guggenheim Memorial Foundation

Member-at-Large, Executive Committee, Animal Behavior Society  
(1968 to 1971 and 1976 to 1979)

### **EDITORIAL SERVICE:**

Editor, serial Studies on the Development of Behavior and the Nervous System for Academic Press (1972 to 1978).

Associate Editor, Journal of Comparative and Physiological Psychology (1974 to 1980). Contributing Editor, *North Carolina Journal of Mental Health* (1965 to 1972 and 1977 to 1980).

Irregular editorial consultant to *Animal Behaviour*, *Developmental Psychobiology*, *Science*, *Nature*, *Behavioral Biology*, *BioEssays*, *Brain Research*, *Child Development*, *Journal of the History of the Behavioral Sciences*, *Behavioral and Brain Sciences*, *Psychological Bulletin*, *Zeitschrift für Tierpsychologie*, *Journal of Comparative Psychology*, *Behavioral Neuroscience*, *Psychological Review*, and *Infant Behavior and Development*.

Editorial Board, *American Scientist* (1983-1990).

Editorial Board, *From Past to Future*, Clark University Papers on the History of Psychology (1998- )

International Reviewers Panel, *Medical Science Monitor* (2004- ).

### **PREDOCTORAL RESEARCH SUPERVISION:**

Lincoln Gray (junior high school science fair project), now Professor of Otolaryngology and Director of Research, University of Texas Medical Center.

Marvin Simner (masters thesis), now Professor of Psychology, University of Western Ontario, Canada.

Marieta Heaton, (doctoral thesis), now Professor of Neuroscience, University of Florida Medical School.

Richard Scoville (doctoral thesis), resigned in third year of tenure-track position at Virginia Polytechnic and State University to go into computer work.

Barbara Lawrence (honors thesis), at last contact: Associate Dean in a college in the Mid-West.

Gang Wang (masters thesis), at last contact: doctoral candidate in neuroscience at Tulane University.

Cheryl Ann Sexton (doctoral thesis), at last contact: Assistant Professor, Kalamazoo College, Michigan.

### **POSTDOCTORAL RESEARCH SUPERVISION:**

Marshall Harth (1970-72), Professor of Psychology, Arapahoe College, New Jersey.

William Lippe (1972-75), formerly Professor of Otolaryngology, University of Oklahoma Medical Center, later Research Associate, Department of Otolaryngology, University of Washington Medical Center, Seattle.

David B. Miller (1974-80), Professor of Psychology, University of Connecticut.

Timothy D. Johnston (1978-83), Professor of Psychology and Dean of the College of Arts and Sciences, University of North Carolina at Greensboro.

Robert Lickliter (1983-86), Professor of Psychology, Florida International University.  
Charles F. Blaich (1986-87), at last contact: Associate Professor at Wabash College.  
Antoinette Dyer (1987-88), at last contact: Assistant Professor at Radford University.  
Lubov Dmitrieva (1990-92), former Research Associate, USSR Academy of Sciences,  
Institute of Higher Nervous Activity and Neurophysiology, Laboratory of  
Behavioral Ontogeny.  
Keri O'Neal (2001-2002), lost contact.

### **RECENT INVITED TALKS:**

North American Society for the Psychology Sport and Physical Activity, Baltimore	Society for the Study of Human Development, of Harvard University
Institute of Child Development, University of Minnesota	42nd Congress of the German Psychological Society, Jena, Germany

### **MISCELLANEOUS RECOGNITIONS:**

<i>Who's Who in the World</i>	<i>2000 Outstanding Scientists of the 20th Century</i>
<i>Who's Who in America</i>	<i>2000 Outstanding Intellectuals of the 20th Century</i>
<i>Who's Who in Science and Engineering</i>	<i>2000 Outstanding Scientists of the 21st Century</i>
<i>Who's Who in Medicine and Healthcare</i>	<i>2000 Outstanding Intellectuals of the 21st Century</i>
<i>Who's Who in American Education</i>	

Distinguished Scientific Contributions to Child Development Award,  
Society for Research in Child Development (1997)

*Synthesizing Nature-Nurture* (1997; Erlbaum) selected for 1998 Eleanor Maccoby Book  
Award, Developmental Psychology Division, American Psychological Association

*Animal Behaviour* (1993) paper, "Social Induction of Malleability in Ducklings," ranked 14th of 20  
"Studies That Most Fascinated Child Psychology" in the last 50 years by Society for  
Research in Child Development (2003)

### **PUBLICATIONS:**

#### **Research Articles**

Gottlieb, G. (1961). Developmental age as a baseline for determination of the critical period in  
imprinting. *Journal of Comparative and Physiological Psychology*, 54, 422-427. (Reprinted  
in *Control and development of behavior: An historical sample from the pens of ethologists*.  
Reading, Mass.: Addison-Wesley, 1972.)

- Gottlieb, G. (1961). The following-response and imprinting in wild and domestic ducklings of the same species (*Anas platyrhynchos*). *Behaviour*, 18, 205-228.
- Gottlieb, G., & Paulson, G. W. (1961). A longitudinal study of salivation in depressed patients. *Archives of General Psychiatry*, 5, 468-471.
- Paulson, G. W., & Gottlieb, G. (1961). A longitudinal study of the electroencephalographic arousal response in depressed patients. *Journal of Nervous and Mental Diseases*, 133, 524-528.
- Gottlieb, G. & Klopfer, P. H. (1962). The relation of developmental age to auditory and visual imprinting. *Journal of Comparative and Physiological Psychology*, 55, 821-826.
- Klopfer, P. H., & Gottlieb, G. (1962). Imprinting and behavioral polymorphism: auditory and visual imprinting in domestic ducks (*Anas platyrhynchos*) and the involvement of the critical period. *Journal of Comparative and Physiological Psychology*, 55, 126-130.
- Gottlieb, G. (1963). A naturalistic study of imprinting in wood ducklings (*Aix sponsa*). *Journal of Comparative and Physiological Psychology*, 56, 86-91.
- Gottlieb, G. (1963). Following-response initiation in ducklings: Age and sensory stimulation. *Science*, 140, 399-400.
- Gottlieb, G. (1963). "Imprinting" in nature. *Science*, 139, 497-498.
- Gottlieb, G. (1963). Refrigerating eggs prior to incubation as a way of reducing error in calculating developmental age in imprinting experiments. *Animal Behaviour*, 11, 290-292.
- Gottlieb, G., Doran, C., & Whitley, S. (1964). Cerebral dominance and speech acquisition in deaf children. *Journal of Abnormal and Social Psychology*, 69, 182-189.
- Gottlieb, G. (1965). Components of recognition in ducklings. *Natural History*, 74, 12-19. (Republished in German language by editorial request: Wie die jungen Entchen ihre eigene Art erkennen können. *Das Tier*, 1965, 8, 4-7. English-language version reprinted in *Field studies in natural history*. New York: Van Nostrand Reinhold, 1970. Also reprinted in *The Natural History Reader in Animal Behavior*. New York: Columbia University Press, 1987.)
- Gottlieb, G. (1965). Imprinting in relation to parental and species identification by avian neonates. *Journal of Comparative and Physiological Psychology*, 59, 345-356. (Reprinted in part in *The competent infant*. New York: Basic Books, 1973. Also reprinted in *Biological boundaries of learning*. New York: Appleton-Century-Crofts, 1972.)
- Gottlieb, G. (1965). Prenatal auditory sensitivity in chickens and ducks. *Science*, 147, 1596-1598. (Reprinted in *The Competent Infant*. New York: Basic Books, 1973.)
- Gottlieb, G. & Kuo, Z.-Y. (1965). Development of behavior in the duck embryo. *Journal of Comparative and Physiological Psychology*, 59, 183-188. (Reprinted in part in *Panorama of Psychology*. Belmont, California: Brooks/Cole, 1969.)

- Gottlieb, G. & Wilson, I. C. (1965). Cerebral dominance: temporary disruption of verbal memory by unilateral electro-convulsive shock treatment. *Journal of Comparative and Physiological Psychology*, 60, 368-372.
- Gottlieb, G. (1966). Species identification by avian neonates: Contributory effect of perinatal auditory stimulation. *Animal Behaviour*, 14, 282-290.
- Gottlieb, G. & Simner, M. (1966). Cardiac rate and nonnutritive sucking in human infants. *Journal of Comparative and Physiological Psychology*, 61, 128-131.
- Gottlieb, G. Learning. (1967). In *Yearbook of science and technology*. New York: McGraw-Hill. Pp.213-216.
- Gottlieb, G. (1968). Prenatal development of motility and other behavior in bird embryos. In A. W. Stokes (Ed.), *Animal behavior in laboratory and field*. San Francisco: W. H. Freeman. Pp. 161-166.
- Gottlieb, G. (1968). Prenatal development of vocal ability in birds. In A. W. Stokes (Ed.), *Animal behavior in laboratory and field*. San Francisco: W. H. Freeman. Pp. 157-60.
- Gottlieb, G. (1968). Species recognition in ground-nesting and hole-nesting ducklings. *Ecology*, 49, 87-95.
- Gottlieb, G. & Vandenberg, J. G. (1968). Ontogeny of vocalization in duck and chick embryos. *Journal of Experimental Zoology*, 168, 307-325.
- Paulson, G. W., & Gottlieb, G. (1968). Developmental reflexes: The reappearance of fetal and neonatal reflexes in aged patients. *Brain*, 91, 37-52.
- Gottlieb, G. & Simner, M. L. (1969). Auditory versus visual flicker in directing the approach response of domestic chicks. *Journal of Comparative and Physiological Psychology*, 67, 58-63.
- Oppenheim, R. W., Jones, J. R., & Gottlieb, G. (1970). Embryonic motility and posthatching perception in birds after prenatal gamma irradiation. *Journal of Comparative and Physiological Psychology*, 71, 6-21.
- Gottlieb, G. (1974). On the acoustic basis of species identification in wood ducklings (*Aix sponsa*). *Journal of Comparative and Physiological Psychology*, 87, 1038-1048.
- Gottlieb, G. (1975). Development of species identification in ducklings: I. Nature of perceptual deficit caused by embryonic auditory deprivation. *Journal of Comparative and Physiological Psychology*, 89, 387-399.
- Gottlieb, G. (1975). Development of species identification in ducklings: II. Experiential prevention of perceptual deficit caused by embryonic auditory deprivation. *Journal of Comparative and Physiological Psychology*, 89, 675-684.
- Gottlieb, G. (1975). Development of species identification in ducklings: III. Maturation rectification of

- perceptual deficit caused by auditory deprivation. *Journal of Comparative and Physiological Psychology*, 89, 899-912.
- Gottlieb, G. (Ed.) (1975). Mental health programs for infants in North Carolina. *North Carolina Journal of Mental Health*, 8, 1-65.
- Gottlieb, G. (1976). Comparative psychology. *American Psychologist*, 31, 295-297.
- Gottlieb, G. (1976). Le comportement de l'embryon. *Le Recherch.*, 7, 833-841.
- Miller, D. B. & Gottlieb, G. (1976). Acoustic features of wood duck (*Aix sponsa*) maternal calls. *Behaviour*, 57, 260-280.
- Gottlieb, G. (1977). The call of the duck. *Natural History*, 86, 40-47.
- Gottlieb, G. (1978). Development of species identification in ducklings: IV. Change in species-specific perception caused by auditory deprivation. *Journal of Comparative and Physiological Psychology*, 92, 375-387.
- Miller, D. B. & Gottlieb, G. (1978). Maternal vocalizations of mallard ducks (*Anas platyrhynchos*). *Animal Behaviour*, 26, 1178-1194.
- Gottlieb, G. (1979). Development of species identification in ducklings: V. Perceptual differentiation in the embryo. *Journal of Comparative and Physiological Psychology*, 93, 831-854.
- Gottlieb, G. (1980). Development of species identification in ducklings: VI. Specific embryonic experience required to maintain species-typical perception in Peking ducklings. *Journal of Comparative and Physiological Psychology*, 94, 579-587. (Reprinted in J.J. Bolhuis, & J.A. Hogan, Eds., *The development of animal behavior: A reader*. Blackwell Publishers, 1997.)
- Gottlieb, G. (1980). Development of species identification in ducklings: VII. Highly specific early experience fosters species-specific perception in wood ducklings. *Journal of Comparative and Physiological Psychology*, 94, 1019-1027.
- Scoville, R., & Gottlieb, G. (1980). Development of vocal behaviour in Peking ducklings. *Animal Behaviour*, 28, 1095-1109.
- Gottlieb, G. (1981). Development of species identification in ducklings: VIII. Embryonic vs. postnatal critical period for the maintenance of species-typical perception. *Journal of Comparative and Physiological Psychology*, 95, 540-547.
- Johnston, T. D. & Gottlieb, G. (1981). Development of visual species identification in ducklings: What is the role of imprinting? *Animal Behaviour*, 29, 1082-1099.
- Johnston, T. D. & Gottlieb, G. (1981). Visual preferences of imprinted ducklings are altered by the maternal call. *Journal of Comparative and Physiological Psychology*, 95, 663-675.

- Miller, D. B. & Gottlieb, G. (1981). Effects of domestication on production and perception of mallard maternal alarm calls: Developmental lag in behavioral arousal. *Journal of Comparative and Physiological Psychology*, 95, 205-219.
- Gottlieb, G. (1982). Development of species identification in ducklings: IX. The necessity of experiencing normal variations in embryonic auditory stimulation. *Developmental Psychobiology*, 15, 507-517.
- Gottlieb, G. (1983). Development of species identification in ducklings: X. Perceptual specificity in the wood duck embryo requires sib stimulation for maintenance. *Developmental Psychobiology*, 16, 323-333.
- Gottlieb, G. (1984). Development of species identification in ducklings: XII. Ineffectiveness of auditory self-stimulation in wood ducklings (*Aix sponsa*). *Journal of Comparative Psychology*, 98, 137-141.
- Gottlieb, G. (1984). Lingering Haeckelian influences and certain other inadequacies of the operant viewpoint for phylogeny and ontogeny. *Behavioral and Brain Sciences*, 7, 688-689.
- Gottlieb, G. (1985). Development of species identification in ducklings: XI. Embryonic critical period for species-typical perception in the hatchling. *Animal Behaviour*, 33, 225-233.
- Johnston, T. D. & Gottlieb, G. (1985). Development of visually controlled maternal preferences in Peking ducklings. *Developmental Psychobiology*, 18, 23-36.
- Johnston, T. D. & Gottlieb, G. (1985). Effects of social experience on visually imprinted maternal preferences in Peking ducklings. *Developmental Psychobiology*, 18, 261-271.
- Lickliter, R., & Gottlieb, G. (1985). Social interaction with siblings is necessary for the visual imprinting of species-specific maternal preferences in ducklings (*Anas platyrhynchos*). *Journal of Comparative Psychology*, 99, 371-379.
- Lickliter, R., & Gottlieb, G. (1986). Training ducklings in broods interferes with maternal imprinting. *Developmental Psychobiology*, 19, 555-566.
- Lickliter, R., & Gottlieb, G. (1986). Visually imprinted preference in ducklings is redirected by social interaction with siblings. *Developmental Psychobiology*, 19, 265-277.
- Gottlieb, G. (1987). Development of species identification in ducklings: XIII. A comparison of malleable and critical periods of perceptual development. *Developmental Psychobiology*, 20, 393-404.
- Gottlieb, G. (1987). Development of species identification in ducklings: XIV. Malleability of species-specific perception. *Journal of Comparative Psychology*, 101, 178-182.
- Lickliter, R., & Gottlieb, G. (1987). Retroactive excitation: Post-training social experience with siblings consolidates maternal imprinting in ducklings (*Anas platyrhynchos*). *Journal of Comparative Psychology*, 101, 40-46.



- Gottlieb, G. (1988). Development of species identification in ducklings: XV. Individual auditory recognition. *Developmental Psychobiology*, 21, 509-522.
- Lickliter, R., & Gottlieb, G. (1988). Social specificity: Interaction with sibs is necessary to foster species-specific maternal preference in ducklings. *Developmental Psychobiology*, 21, 311-321.
- Dyer, A. B., Lickliter, R., & Gottlieb, G. (1989). Maternal and peer imprinting in mallard ducklings under experimentally simulated natural social conditions. *Developmental Psychobiology*, 22, 463-476.
- Gottlieb, G., Tomlinson, W.T., & Radell, P.L. (1989). Developmental intersensory interference: Premature visual experience suppresses auditory learning in ducklings. *Infant Behavior and Development*, 12, 1-12.
- Dyer, A. B., & Gottlieb, G. (1990). Auditory basis of maternal attachment in mallard ducklings under simulated naturalistic imprinting conditions. *Journal of Comparative Psychology*, 104, 190-194.
- Gottlieb, G. (1991). Experiential canalization of behavioral development: Results. *Developmental Psychology*, 27, 35-39.
- Gottlieb, G. (1991). Social induction of malleability in ducklings. *Animal Behaviour*, 41, 953-962.
- Dmitrieva, L. P., & Gottlieb, G. (1992). Development of the brainstem auditory pathway in mallard duck embryos and hatchlings. *Journal of Comparative Physiology A*, 171, 665-671.
- Radell, P. L., & Gottlieb, G. (1992). Developmental intersensory interference: Augmented prenatal sensory experience interferes with auditory learning in duck embryos. *Developmental Psychology*, 28, 795-803.
- Gottlieb, G. (1993). Social induction of malleability in ducklings: Sensory basis and psychological mechanism. *Animal Behaviour*, 45, 707-719. (In 2003, ranked 14th among 20 SRCO "Studies That Fascinated Child Psychology" since 1950.)
- Dmitrieva, L. P., & Gottlieb, G. (1994). Influence of auditory experience on the development of brainstem auditory evoked potentials in mallard duck embryos and hatchlings. *Behavioral and Neural Biology*, 61, 19-28.
- Gottlieb, G., & Blair, C. (2004) How early experience matters in intellectual development in the case of poverty. *Prevention Science*, 5, 245-252.

### **Intellectual Biographies**

- Gottlieb, G. (1972). Zing-Yang Kuo: Radical scientific philosopher and innovative experimentalist (1898-1970). *Journal of Comparative and Physiological Psychology*, 80, 1-10. (Reprinted in *The dynamics of behavior development*, enlarged ed. New York: Plenum Press, 1976. Revised version reprinted in *Portraits of Pioneers in Psychology*, vol. III, pp. 197-208, in 1998.)

Gottlieb, G. (1987). A tribute to Clarence Luther Herrick (1858-1904): Founder of developmental psychobiology. *Developmental Psychobiology*, 20, 1-5.

Gottlieb, G. (1998). Myrtle McGraw's unrecognized conceptual contributions to developmental psychology. *Developmental Review*, 18, 437-448.

## Film

Gottlieb, G., Kuo, Z.-Y., & Smith, A. (1964). Development of behavior in the duck embryo. Rentals and sales by Psychological Cinema Register, Pennsylvania State University.

## Video

Gottlieb, G. (1990). Developmental analysis of an instinct. Available from Learning Resources Center, University of North Carolina at Greensboro.

## Theoretical Reviews

Gottlieb, G. (1968). Prenatal behavior of birds. *Quarterly Review of Biology*, 43, 148-174. (Reprinted in L. C. Drickamer & L. Houck, Eds., *Foundations of animal behavior*. University of Chicago Press, 1996.)

Gottlieb, G. (1973). Neglected developmental variables in the study of species identification in birds. *Psychological Bulletin*, 79, 362-372.

Gottlieb, G. (1976). Conceptions of prenatal development: Behavioral embryology. *Psychological Review*, 83, 215-234. (Reprinted in *Learning development, and culture*. London: John Wiley, 1982.)

Gottlieb, G., Johnston, J.D., and Scoville, R.P. (1982). Conceptions of development and the evolution of behavior. *Behavioral and Brain Sciences*, 5, 284.

Gottlieb, G. (1984). Evolutionary trends and evolutionary origins: Relevance to theory in comparative psychology. *Psychological Review*, 91, 448-456.

Gottlieb, G. (1987). The developmental basis of evolutionary change. *Journal of Comparative Psychology*, 10, 262-271.

Johnston, T. D., & Gottlieb, G. (1990). Neophenogenesis: A developmental theory of phenotypic evolution. *Journal of Theoretical Biology*, 147, 471-495.

Gottlieb, G. (1991). Behavioral pathway to evolutionary change. *Rivista di Biologia/Biology Forum*, 84, 385-409. (invited article)

Gottlieb, G. (1991). Epigenetic systems view of human development. *Developmental Psychology*, 27, 33-35.

Gottlieb, G. (1991). Experiential canalization of behavioral development: Theory. *Developmental Psychology*, 27, 4-13. (invited article)

- Gottlieb, G. (1995). Some conceptual deficiencies in "developmental" behavior genetics. *Human Development*, 38, 131-141; commentary 142-169.
- Gottlieb, G. (1998). Myrtle McGraw's unrecognized conceptual contribution to developmental psychology. *Developmental Review*, 18, 437-448.
- Gottlieb, G. (1998). Normally occurring environmental and behavioral influences on gene activity: From central dogma to probabilistic epigenesis. *Psychological Review*, 105, 792-802.
- Gottlieb, G. (2000). Environmental and behavioral influences on gene activity. *Current Directions in Psychological Science*, 9, 93-97. (invited article)
- Gottlieb, G. (2001). The relevance of developmental-psychobiological metatheory to developmental neuropsychology. *Developmental Neuropsychology*, 19, 1-9. (invited article)
- Gottlieb, G. (2002). Developmental-behavioral initiation of evolutionary change. *Psychological Review*, 109, 211-218.
- Gottlieb, G. (2002). On the epigenetic evolution of species-specific perception: The developmental manifold concept. *Cognitive Development*, 17, 1287-1300. (invited article)
- Gottlieb, G., & Halpern, C. (2002). A relational view of causality in normal and abnormal development. *Development and Psychopathology*, 14, 421-435. (invited article)
- Gottlieb, G. (2003). Animal models of human development. In J. Valsiner (Ed.). *From past to future: Clark University papers on the history of psychology*. Worcester, MA: Clark University Press. Pp. 39-52.
- Gottlieb, G. (2003). On making behavioral genetics truly developmental. *Human Development*, 46, 337-355.
- Gottlieb, G., & Lickliter, R. (2004). The various roles of animal models in understanding human development. *Social Development*, 13, 311-325. (invited article)

## Chapters

- Gottlieb, G. (1968). Species-specific perception in duck embryos. In L. Jilek and S. Trojan (Eds.), *Ontogenesis of the brain*. Prague: Charles University. Pp.97-103.
- Gottlieb, G. (1970). Conceptions of prenatal behavior. In L. R. Aronson et al. (Eds.), *Development and evolution of behavior*. San Francisco: W. H. Freeman. Pp. 111-137.
- Gottlieb, G. (1971). Ontogenesis of sensory function in birds and mammals. In E. Tobach, L. R. Aronson, and E. Shaw (Eds.), *The biopsychology of development*. New York: Academic Press. Pp.67-128.
- Gottlieb, G. (1973). Introduction to behavioral embryology. In G. Gottlieb (Ed.), *Behavioral embryology*. New York: Academic Press. Pp.3-49.

- Gottlieb, G. (1974). Die Entwicklung des Verhaltens. In K. Immelmann (Ed.), *Grzimeks Tierleben: Verhaltensforschung*. Zurich: Kindler. Pp. 551-570. (English translation reprinted in *Grzimek's encyclopedia of ethology*. New York: Van Nostrand Reinhold, 1977.)
- Gottlieb, G. (1976). Early development of species-specific perception in birds. In G. Gottlieb (Ed.), *Neural and behavioral specificity*. New York: Academic Press. Pp.237-280.
- Gottlieb, G. (1976). The roles of experience in the development of behavior and the nervous system. In G. Gottlieb (Ed.), *Neural and behavioral specificity*. New York: Academic Press. Pp. 25-54.
- Gottlieb, G. (1979). Comparative psychology and ethology. In E. Hearst (Ed.), *The first century of experimental psychology*. Hillsdale, New Jersey: Erlbaum. Pp. 147-176.
- Gottlieb, G. (1981). Roles of early experience in species-specific perceptual development. In R. N. Aslin, J. R. Alberts, & M. R. Petersen (Eds.), *Development of perception* (vol. 1). New York: Academic Press. Pp. 5-44.
- Gottlieb, G. (1983). The psychobiological approach to developmental issues. In M. M. Haith and J. J. Campos (Eds.), *Handbook of child psychology: Infancy and developmental psychobiology* (vol. 2, 4th ed.). New York: Wiley. Pp. 1-26.
- Gottlieb, G. (1985). Anagenesis: Theoretical basis for the ecological void in comparative psychology. In T. D. Johnston and A. T. Pietrewicz (Eds.), *Issues in the ecological study of learning*. Hillsdale, New Jersey: Erlbaum. Pp. 59-72.
- Gottlieb, G. (1985). On discovering significant acoustic features of auditory stimulation for infants. In G. Gottlieb and N. A. Krasnegor (Eds.), *Measurement of audition and vision in the first year of postnatal life: A methodological overview*. Norwood, New Jersey: Ablex. Pp. 3-29.
- Gottlieb, G. (1993). Foreword. G. Turkewitz & D. A. Devenny (Eds.), *Timing and developmental time*. Hillsdale, New Jersey: Erlbaum.
- Gottlieb, G. (1996). A systems view of psychobiological development. In D. Magnusson (Ed.), *Individual development over the lifespan: Biological and psychosocial perspectives*. New York: Cambridge University Press. Pp. 76-103.
- Gottlieb, G. (1996). Developmental psychobiological theory. In R. B. Cairns, E. J. Costello, & G. H. Elder, Jr. (Eds.), *Developmental science*. New York: Cambridge University Press. Pp. 63-77.
- Gottlieb, G. (1996). The genetic canalization of individual development: misconstrued innateness. In L. T. Reynolds & L. Liberman (Eds.), *Race and other misadventures: Essays in honor of Ashley Montagu in his ninetieth year*. Dix Hills, New York: General Hall. Pp. 281-298.
- Shanahan, MJ., Valsiner, J., & Gottlieb, G. (1997). Developmental concepts across disciplines. In J. Tudge, M. J. Shanahan, & J. Valsiner (Eds.), *Comparisons in human development*. New York: Cambridge University Press. Pp. 34-71.

- Wahlsten, D., & Gottlieb, G. (1997). The invalid separation of effects of nature and nurture: Lessons from animal experimentation. In R. J. Sternberg & E. Grigorenko (Eds.), *Intelligence, heredity, and environment*. New York: Cambridge University Press. Pp. 163-192.
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