

This is the Final Manuscript version of an entry titled “Roger K. Thomas” to appear in the forthcoming *Encyclopedia of Animal Cognition and Behavior*. The entry was invited, it has been accepted, and the typeset version that will be available electronically and in print has been provided to the author.

It seems unlikely that the *Encyclopedia* will be published before 2020 or possibly later, so final page numbers will not be known to this author until the electronic and print versions of the entire *Encyclopedia* are available.

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Roger K, Thomas, PhD

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Roger K. Thomas, Age 69 in 2008

Birth to High School Graduation

Thomas was born on September 14, 1939, in Americus, Georgia, Sumter County. Sumter County is also the lifelong home of USA President Jimmy

Carter. Due to the relative brevity of this bio sketch, family history will be omitted except to note (a) should they live until October 14, 2020, he and Anne Easley Thomas will have been married 60 years and (b) that his ancestors include several Patriot soldiers who served in the American Revolutionary War.

Thomas changed schools nine times from grades 1 through 8. However, he attended all high school years at Glynn Academy, a public high school founded in 1788 in Georgia's Glynn County. Glynn Academy is notable (a) for its original charter that provided for the education of girls and boys and (b) for being the second oldest, continuously operating public high school in Georgia and the fifth oldest in the USA.

Thomas enrolled at Georgia Southwestern College (GSC) a two-year college in Americus, GA in 1957. He earned an Associate of Arts degree in 1959 with the highest-grade average among male students. During the two years at GSC, he worked from September 1957 until June 1958 for a funeral home that also provided ambulance services. Among his experiences were seating attendees at memorial services, driving a hearse, driving a family car, witnessing the closing of graves as required by law, and occasionally assisting the mortician. His most exciting ambulance run was a full emergency run from Americus, GA to Emory University Hospital in Atlanta, GA, a distance of 125 miles. Thomas' role was limited to helping to load and unload the patient; a cardiologist and a nurse attended the patient during the run.

From June 1958 - May 1959, Thomas was radio announcer for a station that operated from official sunrise to sunset. He worked from mid-morning Saturday

to sunset and all-day Sunday. After noon on Saturdays, he was alone unless an engineer was needed. Thomas read the news, weather, etc. from Associated Press, read commercials or played tape-recorded commercials, and played records. On Sundays, one of the local African-American funeral homes sponsored live music from a studio, which Thomas could observe from his broadcasting booth. The music was mostly a *capella* singing with infrequent piano or guitar accompaniment. These were amateur musicians chosen by the funeral home, rarely the same from one week to the next. Thomas expressed regret that he lacked the foresight to record and preserve that truly authentic, African-American gospel music.

In the summer of 1959, Thomas enrolled at the University of Georgia (UGA). UGA is the oldest chartered state university in the USA (1785); however, the University of North Carolina enrolled students first. UGA was on the quarter system when Thomas arrived, and Thomas completed all requirements for the B. S. degree in Psychology Winter Quarter, 1961, which coincidentally was the quarter when UGA's first two African - American students, Hamilton Holmes and Charlayne Hunter, were enrolled under a federal court order. They had transferred as Juniors and both graduated in May, 1963

Holmes was Emory University's first African-American medical student. He became an orthopedic surgeon in Atlanta and Associate Dean of the Emory University Medical School. Hunter's degree was in Journalism. Her employment began with *The New Yorker* and later as CNN's correspondent in South Africa. Calvin Trillin (1964) chronicled some turbulent events associated with UGA's

integration. Later, Hunter-Gault (1992) described her experiences. First Hunter-Gault and later Hamilton Holmes reconciled with UGA. In 2001, UGA renamed an historic campus building, the Holmes - Hunter-Gault Building.

Graduate Education

Thomas's enrollment in Graduate School was unplanned and fortuitous. One of his teachers in his next-to-last undergraduate quarter, Robert Travis Osborne, did not post grades. Osborne told the class that if one wanted her/his grade, s/he would have to come to his office or wait to receive it in the mail. Osborne was Director of UGA's Guidance and Counseling Center where his office was located. Almost by chance, and while his wife waited in their car to go home for Christmas, Thomas went to get his grade. When Thomas returned to the car, Osborne had assured him he would be accepted to Graduate School and he would immediately have part-time employment equivalent to a graduate assistantship in the Guidance Center.

Osborne supervised Thomas's M.S. thesis, *Intelligence and Socioeconomic Status: A Longitudinal Study with the Wechsler Intelligence Scale for Children (WISC)*. Osborne had a grant from the Educational Testing Service to conduct a longitudinal study of IQ test scores, and Thomas was one of the field test examiners pre- and post-first grade.

Informally, Thomas saw evidence suggesting that attending first grade reduced IQ test score differences among socioeconomic classes. David Wechsler visited Osborne, and Osborne asked Thomas to describe his research to Wechsler. Wechsler told Thomas he would not find anything, because their

standardization procedures were too good. Wechsler was wrong; Thomas did find reduced differences among socioeconomic classes on some subtests of the WISC. Thomas's M. S. degree was conferred in 1963.

Thomas's interest turned to the study of brain and behavior, and his new Major Professor was Lelon J. Peacock. Osborne was gracious about Thomas's change, and they remained friends until Osborne died in 2013, five months short of age 100. Thomas was Executor for Osborne's Estate, which was gifted entirely to UGA (\$5,375,000.00).

Word limits prevent describing Peacock adequately as a mentor, but he challenged his students unrelentingly and compelled them to be self-sufficient. Peacock hired Thomas as research assistant on his NSF grant. Peacock and a UGA electronics shop partner invented a complex electronic apparatus to measure the activity of rats (see Peacock & Williams, 1962). On Thomas's first day as research assistant, Peacock handed him an electronics diagram scrawled on butcher paper and told Thomas to "build it." Thomas knew nothing about electronics. Peacock told him to buy the *Radio Amateur's Handbook* and learn chapter 1. That was the only help Peacock gave. Daily when Peacock checked on Thomas laboring away, he would mutter "it won't work." It worked well enough, although Peacock had to give it a few tweaks. Thomas's Ph.D. dissertation was *Immediate and Subsequent Effects of Brain Damage in Rats*, and the Ph.D. degree was conferred in 1965.

Postdoctoral Fellowship

In September 1965, Thomas began a postdoctoral fellowship in the interdisciplinary Center for Neurobiological Sciences in the University of Florida's Medical School. Thomas's home department was Neurosurgery. His primary mentor was Frederick A. King, a physiological psychologist, and his secondary mentor was Lamar Roberts, Chief of Neurosurgery. Thomas's main research compared squirrel monkeys with frontal lobe lesions to control monkeys. Performances were similar for all of the lesioned monkeys but differed from the control monkeys in nearly identical classical and instrumental conditioning tasks. A tone signaled the possibility of a mild foot-shock. In the classical task, the experimenter determined when shock was delivered. In instrumental conditioning, leg flexion as soon as the tone was presented enabled the monkey to avoid foot-shock. With both tasks, the lesioned monkeys responded significantly faster than the control monkeys, suggesting that frontal lobe lesions resulted in release of inhibition.

In 1966, Thomas was chosen one of 10 "outstanding young psychologists" by the American Psychological Association. The award was a trip to Moscow to attend the International Congress of Psychology. Seven of the 10 were Ivy Leaguers; one was from Stanford, and one was from Canada. Thomas guessed that it likely helped his receiving the award that he had passed a proficiency examination in Russian translation as one of his Ph.D. degree requirements.

Career at the University of Georgia (UGA)

The award might have helped gain Thomas an invitation to apply for a tenure-track position at UGA in 1967. He was hired in September 1967, retired in 2002 as Professor Emeritus, and remained at UGA until he vacated his office in July 2018.

Teaching

Including 19 years as administrator, Thomas rarely taught more than one class per quarter or semester. He enjoyed teaching and received teaching awards, especially for his graduate classes, “Neuroanatomy for Behavioral Scientists” and “History of Psychology.” More information about the range of classes taught as well as the names of mentored graduate students (27 M.S. and 21 Ph.D. degree students) may be seen on Thomas’s UGA website:

<https://faculty.franklin.uga.edu/rkthomas/>

Research

Thomas’s UGA website also shows that currently (January 2019), he has 120 publications and 120 regional, national, and international presentations; many are downloadable as PDFs. His research began mainly in brain and behavior, transitioned to animal cognition, and finished mostly with research in history of psychology. Thomas believes his two most important articles (Thomas, 1980; Thomas, 1996) were theoretical-methodological.

In the context of assessing the evolution of intelligence, Thomas (1980) proposed that fundamental to intelligence was learning ability. He presented an 8-level hierarchy of learning abilities ranging from sensitization to high-level

relational concepts. In Tables III and IV he showed how relational concepts can be expanded logically to challenge even the most intelligent humans. Thomas also proposed that any and all learning tasks used with human or nonhuman animals in the past or future could be reduced to levels or combinations of levels in his eight-level hierarchy. Finally, he proposed that tasks be adapted to each species so that failure can be less likely attributed to contextual variables such as sensory, motor, and motivational variable differences as well as environmental variables (such as light, temperature, humidity, etc.) that might differentially affect the *performances* of different species and misrepresent their learning abilities.

Thomas (1996), "Investigating cognitive abilities in animals: Unrealized potential" was in a special issue of *Cognitive Brain Research*. The cover was adapted from an illustration in his article, his article was first in the issue, and the Editors singled it out in the introductory Editorial as follows.

Roger Thomas describes how the various animal models of cognition function relate to each other, thereby providing a framework in which most of the following papers can be discussed. (T. Steckler & C. D. D'Mello, p. ix)

Thomas believes his best laboratory research involved tasks involving concepts such as oddity in conditional discrimination contexts. Thomas and Kerr (1976) tested squirrel monkeys using trial-unique oddity discriminanda (also known in this case as the *simultaneous discriminanda*). When oddity problems were presented on a white tray (one of two *successive discriminanda*) white signaled that the odd discriminandum was the correct choice, but on a black tray

(the other successive discriminandum) black signaled that either of the nonodd discriminanda were correct choices. Burdyn and Thomas (1984) went further and successfully tested squirrel monkeys using concepts as both the simultaneous discriminanda (trial-unique exemplars of “sameness” and “difference”) and the successive discriminanda (exemplars of “triangularity” and “heptagonality”). Reasoning erroneously (e.g., Thomas & Kerr, 1976) concluded that the monkeys were using biconditional reasoning (e.g., *if white, then odd*” and *if black, then nonodd*”). Burdyn and Thomas (1984) corrected that error. In this *Encyclopedia* (see “Relational concepts and symbolic logic”) Thomas examined the issues associated with determining conditional reasoning in animals.

Thomas and colleagues have also contributed importantly to the literature on animals’ use of numerosness. See Thomas’s entry “Relative numerosness” in this *Encyclopedia* for references and discussion.

Since 1993, Thomas began making noteworthy contributions to research in the history of psychology. For example, Thomas (2007) examined five recurring and important errors among recent history of psychology textbooks, and he discussed some of the reasons for that. Thomas (2011) described the curious circumstances associated with the fact that the first African-American to earn a Ph.D. degree in psychology, Francis Cecil Sumner (Ph.D., 1920; G. Stanley Hall, Supervisor, at Clark University) was a member of the Southern Society for Philosophy and Psychology.

Thomas’s website (<https://faculty.franklin.uga.edu/rkthjomas>) shows his research-related honors, including being a Fellow in the AAAS and having served

as President of the Southern Society for Philosophy and Psychology (SSPP) in 2000.

Administration

Thomas rose through the ranks, and in Fall, 1983, his department head told the Dean he was “burned out” and wanted to be replaced as soon as convenient. Thomas felt he could endure 6 months (January to July 1), so he accepted the Acting Headship beginning January 1984. His first task was to prepare faculty evaluations for 40+ tenured or tenure-track faculty members, and it was required that the evaluations justify recommendations for salary increases.

With zero-based budgeting, that meant that, if someone got an above average raise, someone else had to get a below average raise. Thomas set out to use as much data as he could, and he created a system to turn those data into ratings on a 10-point scale in the categories of teaching, research, and professional services.

Previous Heads had used data but had not developed a standard system for processing it. Thomas discovered that psychologists who believe in measurement in their teaching and research, don't like to be measured. One senior faculty member wrote Thomas a note saying his approach reminded him of the 5th grade. Presumably, he was referring to receiving a report card. Thomas also learned that no one was happy. Those receiving the larger raises never thought them to be large enough and those receiving lower raises were naturally unhappy.

When Spring came and it was time to appoint a regular Head, Thomas decided he could make a difference and became a candidate. At UGA, the Dean appoints the Heads for three-year terms. The Dean consults the faculty which votes, but the Dean is not bound by the vote. Thomas always received favorable votes.

After two, three-year terms, Thomas sincerely informed his Dean that he too was “burned out” and did not want a third term. The Dean asked Thomas what could he do to change his mind. With little thought Thomas replied, “a \$12,000.00 raise. The Dean said, “What else?” Thomas knew he could not decline such a raise as it would thereafter be a permanent part of his salary.

Upon leaving the Headship, in 1993, after 9.5 years, he was appointed 1/3 time to be Director of the College of Arts and Sciences’ Public Service and Outreach Program. He served as Director until retirement in 2002. After retirement, he continued to teach History of Psychology once/year at the graduate level until 2010, and as this is written (January 2019) he continues to publish.

Avocational Interests

Due to working from age 12, Thomas had no opportunity for organized sports. However, in 1970, he had the highest batting average on a softball team that won the Athens City Championship (among 68 teams). He has been a whitewater canoeist since 1974, and has canoe-camped in the Okefenokee Swamp about 10 times. Finally, he owns Gibson J-45 and a Martin D-28

acoustic guitars with which, to quote a female picker - singer friend, “we make a joyful noise.”

Cross-References

Helmholtz, Herman von, Bio

Learning to learn

Morgan’s canon

Müller, Johannes Peter, Bio

Oddity

Reductionism

Relational concepts and symbolic logic

Relative numerosness

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