

INVITED ESSAY

The State of Cultivation

Michael Morgan and James Shanahan

Cultivation analysis investigates television's contributions to viewers' conceptions of social reality. Developed by George Gerbner in the 1960s, cultivation research continues to expand in numerous directions, with over 125 new studies published since 2000. This article reviews the history of cultivation theory and takes stock of recent trends in the field. We argue that cultivation has taken on certain paradigmatic qualities, and we consider the future prospects for cultivation research in the context of the changing media environment.

The world has changed a great deal—and along with it, television, both as an institution and as a technology—since George Gerbner (1919–2005) first formulated the idea of *cultivation* in the 1960s. Despite these changes, the state of cultivation is remarkably healthy, and the outlook for the future is promising. The cultivation perspective is well established; Bryant and Miron (2004) point out that cultivation is one of the three most-cited theories in mass communication research published in key scholarly journals from 1956 to 2000. As of 2010, over 500 studies directly relevant to cultivation have been published—and more than 125 since 2000.¹ Research in this area is vibrant, thriving, and branching off into areas Gerbner could not have imagined (and may not have always approved of).

The basic tenets of cultivation analysis are well known to media researchers. The most familiar version of “the cultivation hypothesis” is that those who spend more time watching television are more likely to perceive the real world in ways that reflect the most common and recurrent messages of the world of fictional television. But there's much more to it than that. In order to contextualize the current state of cultivation research, a historical overview of Gerbner's original conceptualization

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is necessary to provide a fuller and more nuanced explanation of his ideas than is typically presented.

The Concept of Cultivation

Gerbner attempted to devise a new, broad-based approach to the study of mass communication, one that focused on the process of mass communication itself. Fundamentally, the goal of most communication research at the time was tactical, “to find the most suitable ways of ‘selling’ (or disguising) policies which serve institutional objectives” (Gerbner, 1966, p. 100). In contrast, Gerbner argued that those institutional objectives should instead constitute the *object* of research. Rather than “serving institutional objectives,” he argued that decision-making in a democratic society required critical analysis of the nature and consequences of those objectives (Gerbner, 1958).

Starting from a definition of communication as “interaction through messages” (formally coded symbolic events evoking shared cultural significance), Gerbner framed *mass* communication as the mass production of messages—a profound development with vast cultural consequences. Gerbner wrote:

The cultural transformation of our time stems from the extension of the industrial-technological revolution into the sphere of message-production. The mass production and rapid distribution of messages create new symbolic environments that reflect the structure and functions of the institutions that transmit them. These institutional processes of the mass-production of messages short-circuit other networks of social communication and superimpose their own forms of collective consciousness—their own publics—upon other social relationships. The consequences for the quality of life, for the cultivation of human tendencies and outlooks, and for the governing of societies, are far-reaching. (Gerbner, 1970, p. 69)

In this passage, Gerbner draws attention to three entities—institutions, messages, and publics—suggesting three distinct areas of analysis (Gerbner, 1966). This framework coalesced into “Cultural Indicators,” a far-ranging and long-lasting research project (Gerbner, 1969). First, “institutional process analysis” investigates the organizational forms, power relations, and decision-making pressures and processes of the institutions that produce mass-mediated messages. Second, “message system analysis”² investigates broad structures and consistent patterns in large bodies of those messages in the aggregate (as opposed to in any particular program or genre, and apart from issues of “quality” or aesthetic value).

The third area of analysis—cultivation analysis—was defined as the “study of the relationships between institutional processes, message systems, and the public assumptions, images, and policies that they cultivate” (Gerbner, 1970, p. 71). These relationships were framed as dynamic, with each component affecting (and affected by) the others. Note there is no mention here of comparing the beliefs and assumptions of light, medium, and heavy viewers; that came later. Rather, the

notion is that living in a symbolic environment in which certain types of institutions with certain types of objectives create certain types of messages, tends to cultivate (support, sustain, and nourish) certain types of collective consciousness.

Critically, Gerbner departed from the then-prevailing tendency in communication research to define "effects" in terms of some kind of "change," most often short-term, and in response to specifically targeted messages (political, commercial, etc.). Gerbner stressed that "the history and dynamics of continuities, as well as of change, in the reciprocal relationships between social structures, message systems, and image structures are the 'effects' of communication" (Gerbner, 1966, p. 101). The mass-produced symbolic environment creates publics and reveals social and institutional dynamics; because it expresses social and cultural patterns, it also cultivates them (see also Morgan, 2002).

Cultivation Research

The Cultural Indicators project started conducting annual message system analyses of prime-time broadcast programming in 1967. The goal was to track the most stable, pervasive, and recurrent images in network television content, in terms of the portrayal of violence, gender roles, race and ethnicity, occupations, and many other topics and aspects of life, over long periods of time. While message system analysis was based on standard content analysis procedures, cultivation analysis at first had no concrete methodological direction. Its methodology began to take shape in the 1970s, through Gerbner's collaboration with Gross (see Gerbner & Gross, 1976).

Cultivation analysis explores the independent contribution of television viewing to audiences' conceptions of social reality. Based on message system analyses, cultivation researchers develop hypotheses about what people would think about various aspects of "reality" if everything they knew about some issue or phenomenon were derived from television's dominant portrayals. Survey methods are used to assess the difference (if any) that amount of television viewing makes with respect to a broad variety of opinions, images, and attitudes, across a variety of samples, types of measures, topical areas, and mediating variables. The goal is to ascertain if those who spend more time watching television, other things held constant, are more likely to perceive the real world in ways that reflect those particular messages and lessons.

Contrary to the usual concerns about the effects of television violence on the stimulation of aggressive behavior, Gerbner and colleagues argued that heavy viewing cultivates exaggerated perceptions of victimization, mistrust, and danger, along with numerous inaccurate beliefs about crime and law enforcement (Gerbner & Gross, 1976; Gerbner, Gross, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1978; Gerbner, Gross, Signorielli, Morgan, & Jackson-Beeck, 1979). Compared to matching groups of lighter viewers, heavy viewers were found to be more likely to say that most people "cannot be trusted," and most people are "just looking out for themselves" (Gerbner, Gross, Morgan, & Signorielli, 1980; Signorielli, 1990), a pattern that became known as the "Mean World Syndrome."

Early cultivation studies produced a great deal of intense criticism, on conceptual, methodological, and analytical grounds (see Hirsch, 1980; Hughes, 1980; Potter, 1993, 1994; for a summary response, see Shanahan & Morgan, 1999). Partly in response to these critiques, various refinements were made to cultivation theory, including the notions of mainstreaming (a homogenization of outlooks among otherwise divergent groups of viewers), and resonance (cases of special salience and vulnerability to television's messages; see Gerbner et al., 1980).

The research expanded to investigate the cultivation of sex-role stereotypes, political orientations and behavior, images of aging, health-related beliefs and behaviors, opinions about science, attitudes toward marriage and the family, work, minorities, sexuality, the environment, religion, affluence, and numerous other issues. As well, cultivation research has been undertaken in over two dozen countries (see Morgan, Shanahan, & Signorielli, 2009).

A meta-analysis of over two decades of cultivation research showed that television viewing makes a small but consistent contribution to viewers' beliefs and perspectives (Shanahan & Morgan, 1999). Since that analysis was conducted, however, scholars continued to expand the range and focus of cultivation theory and research in many different directions. This article offers an assessment of some recent developments.³

Current Developments

Genre-Specific Cultivation

One common criticism of cultivation is that Gerbner and colleagues "lumped together" all viewing into one undifferentiated, homogenized mass, as if there were no appreciable differences between *Laverne and Shirley* and *Starsky and Hutch*. While early cultivation research was quite specific that it was the message system that was explored, in the aggregate ("the bucket, not the drops," see Shanahan & Morgan, 1999), no cultivation theorist ever proposed that viewing different types of programs on a regular basis might not have differential effects. What is at question is whether such genre-specific effects should be called "cultivation." Moreover, to focus on superficial distinctions among genres risks losing sight of what different types of programs have in common, which cultivation emphasizes.

Still, one distinctive aspect of recent cultivation work has been a tendency to examine exposure to specific genres. Whether or not such studies should be called cultivation does not seem to be an issue for most researchers; as a practical matter, numerous scholars are pursuing studies of exposure to genres (and even to specific single programs) under the rubric of cultivation.

One genre of programming that received some attention is the talk show. Woo and Dominick (2001) examined relationships between exposure to talk shows and beliefs about the frequency of marital infidelity, running away from home, and premarital

sex, and found that talk-show exposure (and talk show “dominance” in the TV diet) were better predictors of those dependent variables than overall TV exposure (see also Woo & Dominick, 2003). In a prolonged exposure experiment, Rössler and Brosius (2001) observed that talk shows cultivated adolescents’ perceptions of homosexuality (in a less restrictive direction), but not of trans-sexuality or body piercing.

Because programs such as *The Oprah Winfrey Show* often depict families and individuals in crisis and in need of “collective” support, Glynn, Huges, Reineke, Hardy, and Shanahan (2007) hypothesized that heavier viewers of such programs would be more supportive of activist and interventionist government policies in support of families. Their results confirmed the hypothesis, and also showed mainstreaming: conservatives who were heavy talk show viewers were especially more likely to support such policies than they “otherwise” would be.

New program types have attracted attention. Kubic and Chory (2007) found that exposure to “makeover” programs is negatively related to self-esteem and positively related to “perfectionism” and “body dissatisfaction.” Nabi (2009) found little relationship between exposure to programs focusing specifically on cosmetic surgery and body image, but a small relationship with the desire to undergo cosmetic procedures. Ferris, Smith, Greenberg, and Smith (2007) examined exposure to reality dating shows and found that young male heavy viewers were more likely to hold stereotypical perceptions about dating (“men are sex-driven,” “dating is a game,” “women are sex objects”; see also Ward, 2002a). Studies have even applied cultivation theory to watching a single show; Quick (2009) found that viewers of *Grey’s Anatomy* thought that doctors were more “courageous,” and also tended to manifest higher patient satisfaction.

In sum, although genre-specific studies have not yet outlined a clear rationale for how they are similar to or different from the more global concept of cultivation (focusing on collective patterns across communities beyond individual selections), it seems clear that they will continue (see Bilandzic & Rössler, 2004). Certainly, viewers with specific preferences will seek out programs that nourish and sustain the worldviews that such viewers find plausible. From a cultivation perspective, however, such work can fragment the systemic aspects of the overall viewing experience, and observed relationships may reflect selective exposure more than cultivation. We argue that people (especially heavy viewers) do not watch isolated genres only, and that any “impact” of individual program types should be considered in the context of the overall viewing experience. For example, while viewers may “learn” much about doctors from watching medical dramas, messages about doctors are by no means limited to such programs. Genre studies thus need to develop a stronger theoretical conception of how genre exposure relates to overall exposure.

Fear of Crime

Fear of crime continues to be a major focus of cultivation theory, and studies in this area, in particular, often have focused on the role of specific genres and

program types. Grabe and Drew (2007) examined exposure to various crime genres, including news and fictional portrayals, and tested a variety of hypotheses about the relative importance of different genres in comparison to overall viewing. Overall, they found "little evidence of cultivation effects associated with televised crime drama" (p. 163), but more evidence for cultivation with exposure to nonfictional ("reality") violence.

Understandably, a considerable amount of recent research applied cultivation to local news. Local news is heavily consumed and filled with messages of crime and violence in viewers' local communities, unrelated to actual crime rates. Several studies find that viewing local news predicts fear of crime (e.g., Eschholz, Chiricos, & Gertz, 2003; Weitzer & Kubrin, 2004). Especially strong evidence is provided by Romer, Jamieson, and Aday (2003), who also find that the relationship between local news exposure and fear of crime is independent of local crime rates. Gross and Aday (2003) are virtually alone in *not* finding this association, although they did find that those who watch more local news are more likely to cite crime as the "most important problem" in their city.

TV news viewing in general is related to "heightened perceptions of crime risk on both a personal and societal level" (Romer et al., 2003, p. 99), with exaggerated perceptions of juvenile crime rates, and with holding the erroneous belief that imprisonment is more effective than rehabilitation (Goidel, Freeman, & Procopio, 2006). Local and national news viewing combined predicts fear of crime, and support for capital punishment and handgun ownership (Holbert, Shah, & Kwak, 2004).

Viewing reality police shows produces similar patterns, including not only greater fear of crime (Eschholz et al., 2003), but also lower levels of social trust (Salmi, Smolej, & Kivivuori, 2007), overestimation of overall crime rates and the misperception that juvenile sentencing is race neutral (Goidel et al., 2006), as well as support for capital punishment and actual handgun ownership (Holbert et al., 2004). Heavy viewing of fictional crime drama also predicts fear of crime (Eschholz et al., 2003), and support for the death penalty (Holbert et al., 2004).

Despite these genre-specific patterns, some studies continue to find associations between overall viewing and fear of crime. For example, Van den Bulck (2004) found that overall viewing predicted fear of victimization, and that it was a better predictor of fear than actual experience with crime. Nabi and Sullivan (2001) supported a model in which heavy overall television exposure (1) cultivated exaggerated perceptions of the prevalence of violence, which in turn (2) heightened "Mean World" perceptions, leading to (3) intentions to take protective measures against crime, and (4) actually taking such measures.

Some recent studies are consistent with the notion of resonance. Weitzer and Kubrin (2004) found that the relationship between viewing local television news and fear of crime held *only* for Blacks, and also that it was markedly stronger in higher-crime areas. Moreover, Eschholz et al. (2003) noted that many of their findings held mainly among those who reported that they live in neighborhoods with high percentages of Blacks.

Busselle (2003) found that parents who watch more programs portraying crime and violence are more likely to warn their children about crime during their high school years; these warnings, in turn, predict the students' own crime estimates. This implies that cultivation may take place though both direct and indirect processes.

Clearly, the consensus in current research on fear of crime is that television viewing (sometimes overall viewing, sometimes local news, sometimes reality crime shows, etc.) deserves to be taken seriously. Van den Bulck (2004) compared various structural equation models and concluded that the cultivation model provides a better explanation of associations between television viewing and fear than does either "mood management" (reverse causality) or "withdrawal" (i.e., scared people stay home and watch more television). Weitzer and Kurbin (2004) argue that "the media play a substantial role in shaping beliefs and fear of crime" (p. 515); these relationships "point to the generation of fear, greater support for police authority, and the endorsement of punitive justice and protective measures" (Holbert et al., 2004, p. 355).

There is considerable variation in recent studies in exactly how "fear" is conceptualized. Some studies measure people's perceptions of the amount of violence in society. Others deal with perceived personal risk. And yet others deal with the personal degree of *fear* of being victimized. These are distinct and not necessarily related; as various scholars have noted, fear is an affective state while perceived risk is a cognitive perception. Someone who has an exaggerated sense of the amount of violence "in society" need not be afraid at home in a neighborhood known to be quite safe.

Awareness of these conceptual distinctions is not new, but many recent studies conflate or ignore these differences, with the result that studies that purport to be cultivation analyses of "fear" are often not talking about the same thing at all. From a cultivation perspective, television is more likely to teach us societal-level lessons about what "the world" is like, but not necessarily impact our perceptions of our own personal reality, where a much wider range of influences and everyday non-mediated experiences may play a stronger role.

Cognitive Explorations and Narrative Implications

In 1999, we summarized the research to date on the cognitive mechanisms of cultivation (Shanahan & Morgan, 1999, Chapter 8). At that time, researchers were starting to make gains in what had earlier been a futile quest: to explain *how* cultivation occurs. While Gerbner and colleagues were not very concerned with this question, it has been of persistent interest to others. We noted:

... we all learn the values, norms, and stereotypes disseminated by television primarily by growing up and living in this specific culture; heavy viewing, then, does not involve any "new learning" of these beliefs and outlooks, but instead provides "the repeated instantiation of some stereotypes by their exemplars" [Hawkins,

Pingree & Adler, 1987, p. 575]. . . . In effect, both Hawkins et al. and Shrum posit that television might be “reminding” us, over and over, of what we are not supposed to forget. As Shrum [e.g. Shrum, 1995] contends, it is not that television changes attitudes, but that it makes them stronger. (p. 191)

Lately, research on cognitive processing has provided a great deal of convergent validity to cultivation. Shrum and others have continued to document and extend the now dominant conception of cultivation’s cognitive mechanism: heuristic reception and processing of messages makes heavy television viewers more likely to rely on those messages for perceptions about the real world. Mental shortcuts used while processing TV messages incline heavy viewers to rely more on those messages when constructing judgments about the world, based on frequency, recency, and vividness. Priming respondents to think systematically makes cultivation effects disappear in experimental work, strengthening the theory. Busselle (2001) also confirmed these findings experimentally; consistent with the heuristic model, subjects who were primed with exemplar accessibility tasks showed no evidence of cultivation while those who answered social judgments questions first in an experimental task did show cultivation. Comparing modes of data collection, Shrum (2004a, 2007) argued that heuristic processing would be greater during a telephone survey than during a mail survey (respondents would be under greater time pressure in the phone survey). Shrum found that effects were greater in the phone survey, again confirming the heuristic model.

In a series of studies, Shrum (2004b) argued that two distinct cognitive processes underlie cultivation. “Set size”/probability judgments about the world (“first-order” estimates) are memory-based and derive from heuristic processing. On the other hand, perceptions and attitudes (“second-order” measures) are formed “online,” or at the moment. In both models, cultivation occurs at the moment of judgment, but this is at the time of viewing for online judgments, and at the time of retrieval for memory-based judgments. For online judgments, variables related to online processing (attention, involvement, etc.) enhanced cultivation, as predicted.

Shrum and Bischak (2001) used direct experience with crime as a moderating variable, and observed greater cultivation among those with more direct experience. Such experience may create a “richer and more accessible representation of crime available in memory” (p. 206), which would less likely to be discounted as “TV crime.” This is a cognitive explanation consistent with the notion of resonance.

Bradley (2007) also confirmed the heuristic model, using simulated neural networks. In Bradley’s work, computer programs mimicking connectionist models of memory and retrieval reveal patterns consistent with heuristic processing that leads to cultivation. When asked to perform as a “general-purpose learner,” the simulated network showed a cultivation effect. When “primed” to the source material, the model showed no cultivation effect, and even over-corrected, as seen in Shrum’s studies.

Narrative mechanisms are also receiving increasing attention. While a host of variables may mediate or moderate the cultivation process, most investigators agree

that eventually the process must be understood as reception and processing of narratives. Busselle, Ryabalova, and Wilson (2004) outline a theory of narrative in which acceptance of narratives as realistic is the “default condition” (see also Shanahan & Morgan, 1999). They found that respondents readily supplied narrative-related responses when asked to say what they remembered about a program just seen. Busselle et al. suggest that future assessments of “perceived realism,” an ongoing contentious issue in cultivation research, should not be about comparing the program to the “real world” but about assessing the program’s narrative realism. Bilandzic and Busselle (2008) elaborate this into a model where narrative “transportation” is a key feature of the cultivation process. Transportation into a story means adopting a less critical mindset toward it, and becoming completely involved in the story. Because transportation is very specific to stories, Bilandzic and Busselle argue that it is better suited to cultivation than other moderating or mediating variables. Their interesting but inconsistent results suggest that transportability (a personality trait) did affect transportation during exposure to stimulus films and also magnified cultivation in some cases.

Work continues on these and other possible mechanisms. For instance, Bilandzic (2006) presents a theory in which “perceived distance” of the content plays a role in cultivation; others (e.g., Hetsroni, Elphariach, Kapuza, & Tsfoni, 2007; Van den Bulck & Vandebosch, 2003) argued that the distance (either geographical or conceptual) of material portrayed affects viewers’ processing and is therefore useful in specifying and confirming cultivation processes. Emergent work on “mental models” suggests that dynamic models (mental pictures similar to schemata) of stories, as opposed to memory of facts and images stored at particular times (either heuristically or otherwise), might explain cultivation cognitively in a way that would be consistent with the narrative focus of the theory (Roskos-Ewoldsen, Davies, & Roskos-Ewoldsen, 2004).

Other Recent Findings

A variety of studies expanded cultivation research into new areas, or updated areas of earlier work to reflect notable changes in media messages. Based on content analyses showing frequent portrayals of drug usage on television, Minnebo and Eggermont (2007) surveyed 246 people over 30 in Belgium, and found that heavy viewers were more likely to believe that most young people are substance users. Closer analysis revealed that the effects of education were diminished among heavier viewers—a pattern that is a hallmark of mainstreaming.

Content analyses going back decades consistently showed that mental illness is distorted in the media; e.g., those with mental illness often are presented as violent criminals. Diefenbach and West (2007) found that heavy viewers believe that locating mental health services in residential neighborhoods poses a danger to residents. Similarly, Granello and Pauley (2000) found that heavy viewers expressed less tolerance regarding mental illness.

In contrast to the long-term stability in the image of mental illness, the portrayal of gay and lesbian characters clearly shifted toward more positive (or less negative) and more “normalized” images since the 1980s, when earlier cultivation studies found that heavy viewers were more likely to say that homosexuality was “always wrong.” In a study of 1761 undergraduates, Calzo and Ward (2009) observed that for males and more religious students, heavy viewing meant significantly more “acceptance” of homosexuality. The reverse was true for females and those who are less religious, resulting in a clear mainstreaming pattern.

While gay characters may be portrayed more favorably these days, the opposite may be the case for physicians, who are no longer as wise and infallible as they were in the days of *Marcus Welby, MD*. Chory-Assad and Tamborini (2003) found that undergraduates who watch more prime-time doctor programs rate physicians lower in terms of their ethical character, regard for others, composure, competence, attractiveness, and power. This may not in itself reduce heavy viewers’ confidence in the magic of medicine, however; Van den Bulck (2002) found that high school students who watch more medical dramas tend to overestimate patients’ chances of survival after cardiopulmonary resuscitation—chances that are exaggerated in medical television fiction.

Cultivation studies of gender and family roles continue to show that television contributes to traditional images and aspirations, despite the massive social changes that took place in women’s roles in recent decades. Researchers addressing these issues often argue in favor of genre-specific effects. In a study of female adolescents and young adults in Holland, Ex, Janssens, and Korzilius (2002) found that exposure to sitcoms and soaps (but not overall amount of viewing) predicted anticipating a traditional motherhood, in which they would be devoted to family and children rather than focused on the world outside the home.

Segrin and Nabi’s (2002) study of 285 university students found that while overall amount of viewing was related to holding less idealistic expectations regarding romance and marriage, those who watch more “romantic” programs express more idealistic and romanticized views; they also wish to get married at a younger age, and believe that “my marriage will last forever,” etc. As with any genre-specific pattern, this may represent selective exposure to some extent, but both findings taken together fit with Signorielli’s (1991) observations concerning television’s conflicted/ambivalent representations of marriage.

In a study of 259 undergraduates, Ward (2002a) found that greater viewing of prime-time comedies and dramas, daytime soap operas, and music videos was associated with acceptance of sexual stereotypes (e.g., females are sex objects, males are sex-driven and can’t be faithful, and dating is a recreational sport). These patterns were somewhat stronger among females. Greater TV viewing also contributed to the assumption that peers were sexually active (the belief that “everyone is doing it”). However, Chia and Gunther’s (2006) study of 312 college students did not find any particular relationship between amount of media use and perceptions of peer sexual behaviors.

A considerable amount of recent cultivation research focused on perceptions of science and the environment, building on early findings that television viewing

cultivated a sense that scientists are strange, and that science is potentially dangerous and always on the verge of running out of control (e.g., Gerbner, 1987). Nisbet et al. (2002) observed that heavy television viewers were more likely to hold reservations about science, but they also expressed stronger beliefs in the "promise" of science. Television viewing correlated negatively with science knowledge, and greater knowledge was associated with having fewer reservations about science. The relationship between amount of viewing and reservations about science was thus partially mediated by science knowledge.

Recent investigations continued to explore the cultivation of environmental apathy. Good (2007, 2009) found that the (negative) relationship between television viewing and environmental concern is explained by television's cultivation of materialism and distorted perceptions of affluence, rather than solely by the invisibility of the environment as an issue. Unlike most studies in this area, Holbert, Kwak, and Shah (2003) did not find overall viewing related to environmental apathy, but found viewing television news and nature documentaries positively related to environmental concern and contributed to environmental behaviors.

Studies also continued to examine the cultivation of race perceptions. Portrayals of racial minorities are no longer as straightforwardly negative as they were in the early days of cultivation research, but researchers continue to identify persistent issues involving distortions of racial perceptions among heavy viewers (see, e.g., Busselle & Crandall, 2002; Dixon, 2007; Ward, 2004). Research is also moving beyond portrayals of African Americans; perceptions of Asian Americans (Dalisy & Tan, 2009) and Latinos have received attention (Mastro, Behm-Morawitz & Ortiz, 2007). For instance, using a mental models approach, Mastro and colleagues observed that amount of exposure and perceptions of television content interacted in predicting perceptions of Latinos (such as the perceived "criminality" of Latinos). Also, this effect was moderated by real-world contact with Latinos.

Other recent work continued to examine methodological issues, such as question format (Hetsroni, 2007), the dependent variables and topics analyzed (Hetsroni, 2008; Jeffres, Atkin, & Neuendorf, 2001), and new ways to think about the relationship between TV-world and real-world estimates (Hetsroni & Tukachinsky, 2006).

Theoretical Extensions

The utility and flexibility of cultivation theory can be seen in its adoption as an explanatory framework in areas besides those originally investigated by Gerbner et al. For example, in an extensive review of the role of entertainment media in sexual socialization, Ward (2002b) notes that cultivation theory "has been the dominant model referenced" in "survey research examining the media's influence on viewers' sexual attitudes and assumptions" (p. 360).

Moreover, cultivation has been increasingly examined in the context of other theoretical frameworks from various areas of research in communication as well as other disciplines. This is another indication that the theory is vibrant and adap-

tive, and these linkages promise to enhance our understanding of media effects in general. Some examples:

- Nabi and Sullivan (2001) utilized the Theory of Reasoned Action in their analysis of how the cultivation of fear of crime and “mean world” beliefs may result in viewers taking concrete protective actions against crime.
- Schroeder (2005) used the Elaboration Likelihood Model to try to determine whether cultivation was better explained cognitively by an active learning/construction model or an availability heuristic model. (Schroeder found support for both and tried to integrate them into a single perspective.)
- Roskos-Ewoldsen et al. (2004) explored cultivation theory from a mental models framework, concluding that it enhanced the theory and helped integrate its cognitive and social implications. (See also Mastro et al., 2007.)
- Salmi et al. (2007) examined cultivation with reference to social capital.
- Shanahan, Scheufele, Yang and Hizi (2004) examined perceptions of the prevalence of smoking using a combination of cultivation and the spiral of silence theory.
- Diefenbach and West (2007) drew upon the third-person effect in their analysis of the relationship between amount of television viewing and attitudes toward mental health.
- Jeffres, Neuendorf, Bracken, and Atkin (2008) took that one step further, using the third-person effect to integrate cultivation and agenda-setting. They found a larger third-person effect with cultivation-related issues than with agenda-setting, and argued that this suggests that “audiences recognize differences in how media affect them” (p. 488).

These cross-fertilizations and the conceptual syntheses they offer are exciting, and we expect scholars to pursue more of them in the future.

Cultivation: From “Theory” to “Paradigm”?

Across the recent literature (including many studies not mentioned here), there are consistencies and variations in how a wide variety of independent and dependent measures are related. We should not get too caught up in minor variations across studies, which may merely reflect sample error and differences in operationalization and data collection (and the fact that not all studies have clear bases in message data). This suggests that an updated meta-analysis of cultivation findings would be highly useful (the last one was conducted in 1999, many studies ago).

Apart from the vast (and still growing) number of cultivation studies, the way the theory is discussed in diverse literatures raises the question of whether cultivation has reached “paradigmatic” status. This might seem presumptuous; to compare cultivation to paradigms such as Einstein’s theory of relativity or Darwin’s theory of evolution would be a stretch, to say the least. Clearly, cultivation is not a

doctrine to which all reasonable communication researchers must adhere. However, limiting ourselves to more defensible claims, there are some hallmarks indicating that cultivation has attained certain paradigmatic qualities.

First, Gerbner's idea was rather straightforward, but it ran counter to most established research at the time, theoretically and methodologically. As with many revolutionary ideas in the history of science, once propounded, it received a great deal of criticism and attack. Gerbner simply asserted that long-term, ritualistic exposure to formulaic stories with consistent lessons would be expected to mean something to those who consumed them. While some have said that cultivation and other theories (such as spiral of silence) were a "return to powerful effects," it would probably be better to say that it was just a return to "effects" (with no modifying adjective).

In developing cultivation, Gerbner utilized the social science methods that were so prized by the limited effects theorists. Gerbner and Gross' early attempts in this direction raised a great hue and cry about misuse of method, and put cultivation in the interesting position of being attacked by both critical and quantitative researchers. In drawing fire from both sides, the simple idea of cultivation had the power to simultaneously push aside accumulated irrelevancies (another paradigmatic hallmark) while showing the potential to unite researchers coming from widely divergent perspectives.

Gerbner and Gross' initial observations of cultivation had the additional paradigmatic quality of shifting the traditional question to achieve a new perspective: by focusing on stabilizing audience beliefs and conceptions (and power structures), rather than attitude or behavior change, an entirely new set of future research questions was initiated.

The fierce arguments and colloquies of the 1980s subsided. Although not everyone agreed that the resolution entirely favored cultivation, the persistent relevance of the theory and its main corollary (mainstreaming) is currently much less in dispute (at least overtly). At some point, cultivation gained fairly broad acceptance as a base idea that could be explored in a variety of contexts and situations. Indeed, while Gerbner may not always have approved of such forays (especially when it came to looking at specific program types), many investigators pursued studies in which any relationship between exposure to some medium (most often television) and almost any outcome was seen as somehow relevant to "cultivation." Given the huge number of studies that use or make reference to cultivation analysis, it is difficult not to conclude that, if the field of mass media effects research has any paradigms at all, cultivation must be one of them.

Once a theory starts to look like a paradigm, as Kuhn (1962) informs us, investigation turns to solving issues, riddles and puzzles that are outgrowths of the basic paradigmatic research question. This is Kuhn's period of "normal" science. Researchers who accept (and even to some extent, those who do not accept) the fundamental premises of the theory turn to explaining a variety of subprocesses, secondary issues and further hypotheses suggested by the initial empirical result. As we have seen, this process of normal science accelerated exponentially since the

birth of cultivation, but especially in the 2000s. Recent studies vividly attest to the attention given to greater levels of detail and precision within the basic cultivation paradigm.

While there are certainly other durable theories in mass media research, all this makes it reasonable at this point to conclude that cultivation has now acquired distinct paradigmatic characteristics. Of course, cultivation is not the only way to explain media effects. But the questions it poses (and the answers it receives) are clearly in the vein of “normal science” so famously posed by Kuhn (1962). At this juncture, it is difficult to conceive of how cultivation could be fundamentally restructured without completely dismantling the very nature of the theory itself.

The Future of Cultivation

This brings us to speculation about the future of cultivation. The history of science shows that most paradigms are eventually replaced. And nothing seems as threatening to the basic assumptions of cultivation as the stunning changes in the media environment that have taken place since Gerbner and Gross’s first studies. With TV as an institution and technological form having changed so dramatically, the earlier criticisms that cultivation did not account for viewer activity, for new forms of media, and for greater diversity of channels and messages, have taken on more force. How can cultivation deal with this? As some of the studies discussed here show, one response is to adapt the theory, so that exposure to genres, (or videogames, social media, etc.), are seen as new and important independent variables.

But can we still talk about cultivation in the age of YouTube, Facebook, Hulu, Twitter, and TiVo? The answer is yes. In November 2009, Nielsen reported that *television viewing* had reached an all-time high (Nielsen Wire, 2009). Television still dominates the flow of words and information that pass by our eyes and ears each day (Bohn & Short, 2009). New technologies such as DVRs and websites such as Hulu make it more convenient for us to watch what we want, when we want (and increasingly, where we want)—but they also mean *we spend even more time watching*. And while the number of channels continues to multiply (mostly for marketing purposes), the need to pay attention to their *common* messages and lessons becomes even more urgent, especially as ownership contracts and the links between production and distribution tighten even further (as in the case of Comcast and NBC).

As long as there are popular storytelling systems and purveyors of widely shared messages, Gerbner’s main ideas are likely to persist. If the storytelling *system* itself collapsed, it is difficult to imagine what would replace it: a world in which everyone is producer, distributor, and consumer of messages seems far-fetched. Still, Gerbner argued that when there is a fundamental change in the institutions, structures, or technologies of message production, then the terms of cultivation will also change—and the task of the newly dominant system is then, again, to use stories to stabilize itself.

As we see it, the key issue for cultivation, and other theories of mass communication, going forward, is this: the independent variable can either be construed at a micro- or macro-level. Cultivation clearly construes messages as systems, which are by definition as macro as one can get. Some other approaches tend to reduce messages to components, especially if they can be easily manipulated in laboratory settings. Both of these conceptions survived quite nicely side-by-side through the decades. In an era of *mass* communication, macro-level conceptions may seem to have the most explanatory power. In an era of *mediated interpersonal* communication and fragmented audiences, such macro-level conceptions may seem less relevant. Thus, the future paradigmatic status of cultivation and other related theories depends in large part on future developments in media institutions and technologies. The traditional business model of broadcast television may be in peril, but we think it's safe to say that *television* will remain our primary cultural storyteller for some time to come.

Notes

¹The complete "Bibliography of Publications related to the Cultural Indicators Project" is available at <http://people.umass.edu/mmorgan/CulturalIndicatorsBibliography.pdf>.

²"Message system analysis" is what most researchers call "content analysis," but Gerbner specifically meant to point out that the entirety of a message system is what matters; thus, we retain his terminology.

³Given space considerations, this is by necessity a brief overview. The large number of studies published in recent years—over 125 since 2000—means that we cannot give all areas, issues, or specific studies the conceptual and methodological detail they deserve. The studies noted here do vary considerably in sampling, measurement, data collection, operationalization, etc., and much more could be said about the specific design/findings of each of them—as well as others not mentioned.

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