

JUDITH KOHLENBERGER

THE NEW FORMULA FOR COOL



SCIENCE, TECHNOLOGY,
AND THE POPULAR IN THE
AMERICAN IMAGINATION

[transcript] American **C**ulture **S**tudies

From:

Judith Kohlenberger

The New Formula For Cool

Science, Technology, and the Popular
in the American Imagination

September 2015, 346 p., 39,99 €, ISBN 978-3-8376-3092-3

»Our society has undergone a paradigm shift. In the information age, you and I are the alpha males,« Dr Leonard Hofstadter, experimental physicist and protagonist of the hit sitcom »The Big Bang Theory«, assures himself and his fellow scientists. The success of this and similar formats in American popular culture proves his point: Science has finally discovered the formula for cool.

This interdisciplinary study examines how »cool«, a key aesthetic and affective category in the American imagination, informs contemporary representations of technoscience. Analyzing selected audiovisual productions, Judith Kohlenberger sheds light on current processes of interaction between science and popular culture, two pivotal sources for change in post-industrial America.

Judith Kohlenberger (Dr. phil.) is a post-doctoral researcher with a degree in English and American studies from the University of Vienna. She works and lives in Vienna, Fromtria.

For further information:

www.transcript-verlag.de/978-3-8376-3092-3

Table of Contents

Acknowledgements | 7

Introduction: Images of Technoscience in the New Millennium | 11
Structure and Methodology: A Road Map | 17

The Conquest of Cool:

From American Counterculture to Global Dominance | 23

“We know it when we see it”: The (Nearly) Impossible Task of
Defining Cool | 24

Made in the USA? Cultural Origins of Cool | 27

Contemporary Cool: Directions, Trajectories, and Dead Ends | 31

What is Cool? A Summary | 34

The Formula for Cool: Technoscience, Information Aesthetics,
and the Rise of the Nerds | 41

**The American Information Society and
the Crisis of Scientific Legitimation** | 45

The Knowledge/ Information/ Post-Industrial/ Network Society:
A Critical Overview | 47

Science in the Information Society | 55

The Crisis of Scientific Legitimation | 62

Cool Science: (De-)Legitimizing Science in Popular Culture | 69

Nerd Alert: Science and the Popular | 73

Cultural Studies of Science | 74

Scientific Popularization, Popular Science, and Science in Public | 80

Science and/ in/ as Popular Culture: The Cool Approach | 85

**Cool Forensics and the Spectacle of Technoscience in
CSI: Crime Scene Investigation, *CSI: Miami*, and *CSI: NY*** | 91

Welcome to Las Vegas/ Miami/ New York: The *CSI* Formula | 93

Conservation vs. Innovation: Cool as Strategic Juxtaposition | 97

Cool S.ex.y I.ntelligent: *CSI*'s Scientist-Detectives | 102

The Spectacle of Science | 113

Lab Work: Cool and the Aporia of Information | 118

Recapitulating the Lab | 126

Geek Cool and the Comedy of Science

in *The Big Bang Theory* | 129

“It All Started With A Big Bang”: The Comedy of Science

in *The Big Bang Theory* | 131

Laughing At Science or Laughing With Science? Some Preliminary Remarks
on the Subversive Potential of (Situation) Comedy | 134

“...a working knowledge of the universe and everything it contains”:

Science, Geek Culture, and the Other | 141

Geek Cool: Nonconformity and the Revenge of the Nerds | 148

“Wanna See Something Cool?”: A Close Reading of the Geek in Action | 159

The Legacy of the Geek | 168

Only The Cool Survive: The Science of Disaster

in Roland Emmerich’s *The Day After Tomorrow* | 171

Disaster for the Masses: *The Day After Tomorrow* and Generic Tradition | 173

Preserving America and the Rest: Nation, Masculinity, and Science

in the American Disaster Movie | 183

Straddling the Ultimate Frontier: The Scientist as Hero

in the Post-2000 Disaster Movie | 195

When the Planet Cools Down: Sublime Disaster and

Technoscientific Salvation | 209

Conclusion, or: Scientia Ex Machina | 220

From Nerds to iCons: Consumer Cool and the Rise of the Scientist-Entrepreneur in *The Social Network* and *Jobs* | 223

Personalities That Move the Age: Conventions and Innovations

in the Biopic Genre | 225

Technoscience, Entrepreneurship, and the American Dream:

The Cool Charm of the Self-Made Man | 243

No Respect for the Status Quo: The Cool Rebellion of the

Biopic Subject | 256

“How does somebody know what they want if they’ve never even seen it?”

Cool Capitalism and the Scientist-Entrepreneur | 263

A Tool for the Heart: The Legacy of Cool Consumer Technology | 279

Beyond the Formula: A Conclusion | 283

Context and Desiderata | 290

References | 297

Index | 333

Introduction

Images of Technoscience in the New Millennium

[A] sideshow can sometimes be the main event.

GEORGE LIPSITZ/*TIME PASSAGES*

“Our society has undergone a paradigm shift. In the information age, you and I are the alpha males,” Dr. Leonard Hofstadter, experimental physicist and protagonist of the American hit sitcom *The Big Bang Theory* (2007-present), assures himself and his fellow-scientists during a fancy-dress party. The success of the show proves him right: Not only was the format soon syndicated all over the world, it has also inspired a wealth of popular cultural productions, from daytime shows to Hollywood movies, similarly exploring the hitherto shunned world of science and research. As if determined to prove Dr. Hofstadter’s point, innovative infotainment shows, scientists as cult stars, and traditional television formats newly invested with science nowadays draw unprecedented numbers of viewers. Spectacular pictures from the Mars expedition grace a multitude of computer screensavers and dorm rooms, while the former derogative ‘nerd’ has been re-appropriated into an expression of teenage approval. The times when science and its devotees were represented by one likeable, yet hopelessly pathetic sidekick seem to be long gone. Today, the geeks have taken center stage as admirable heroes and witty protagonists. Contemporary popular culture appears to embrace wholeheartedly what the world of science has to offer - and vice versa. Individual disciplines have started to appropriate and make avid use of popular media. News of the first proton collision at CERN, one of the

most prestigious scientific endeavors of our time, was spread on *Twitter*, and there is hardly a budding scientist who does not present his or her findings on an online blog, thus ridding the profession of its outdated image. In response, workshops for scientists teaching them how to become mediagenic and make their research appear exciting, hip, and zeitgeisty flourish. More serious assessments, such as *The Guardian*'s recent enthusiastic proclamation of "a golden age of science" (Cox et al. n.p.), construct scientific research as one of Western society's prime assets and a chief arbiter of cultural, rather than merely epistemic capital. Science, it appears, has finally discovered the formula for cool.

The present study is dedicated to the exploration of this perceived paradigm shift: While the ubiquitous notion of cool has long pervaded the realms of fashion, advertisement, and youth culture, it now also seems to invade the world of hard science, as depicted in mainstream film and television formats from the United States. Without doubt, coolness constitutes an omnipresent and simultaneously elusive quality of contemporary postmodern society and effectively functions as one of the foremost cultural sensibilities of our time. In correspondence with the triumphant evolution of cool from an attitude of 1960s US-American counterculture into a principal aesthetic norm of mainstream society, the past two decades have witnessed a substantial increase in studies on coolness from a multiplicity of angles and academic traditions. Far from being trivial or arbitrary, cool has been recognized as a dominant mode of affective comportment in the twentieth and early twenty-first century and accordingly been established as a viable field of research within such diverse disciplines as media theory, psychology, art history, and cultural studies. As a case in point, two recent edited collections in the field of American studies testify to the ongoing appeal of cool for academic investigation: *Is It 'Cause It's Cool? Affective Encounters with American Culture* (Fellner et al. 2014), which records the proceedings from the eponymous 2011 Annual Conference of the Austrian Association for American Studies, and *The Cultural Career of Coolness* (Hasselstein et al. 2013), which emerged out of a research cluster on *Languages of Emotion* launched at the Freie Universität Berlin.

The indeterminate ontological status of cool and its resulting semantic flexibility seem to figure as prime motivations for the continuing popularity of the concept: Its cultural force derives from a universal applicability and simultaneous ontological vagueness. Underlying the term is, of course, a central ambiguity: On the one hand, cool has devolved into a universal, semiotically drained term of approval, a mere verbal tic, while its etymological roots, on the other hand, still evoke far-reaching connotations of coldness, dispassion, and emotional restraint. A myriad of studies have demonstrated that the concept of cool is, despite its obvious linguistic drainage, linked to a whole set of cultural associations, be it rebelliousness, irony, hedonism, masculinity, consumerism, youth, counterculture, or, of particular value for the present study, Americanness. Allegedly originating in a pose of affective de-

tachment worn by African warriors in battle, the attitude is believed to have been imported to the United States via the slave trade, where it was cultivated and refined in the vibrant jazz and blues cultures of the 1920s and 1930s. Today, cool displays a noticeable proximity to the values of the modern information age, thus emerging, according to Alan Liu's seminal *The Laws of Cool* (2004), as "the techno-informatic vanishing point of contemporary aesthetics, psychology, morality, politics, spirituality, and everything. No more beauty, sublimity, tragedy, grace, or evil: only cool or not cool" (3). In view of this assessment, the cultural omnipresence of cool must be understood as not only impinging on the realms of advertisement, fashion, celebrity culture, and the American music industry, but also affecting the conditions of epistemic production and representation in the post-industrial information society, especially in the context of modern ICTs (information and communication technologies) and digital culture. The present study aims to address these crucial concerns by examining the depiction of 'cool technoscience' in seven selected films and television programs.

Embarking from preliminary academic accounts of the functionalities of cool, this study is based on the central hypothesis that recent popular cultural representations of (techno)science in mainstream American film and television are increasingly informed by a prominent focus on cool as an aesthetic and affective, rather than cognitive or ethical form of scientific legitimation. The growing emphasis in popular scientific imagery on cool is understood as a response to, or even indeed substitution of, former sources of scientific legitimation, which have been described as superseded in postmodern society. Cool thereby acts as a novel and popular form of legitimation, challenging and potentially replacing traditional cognitive and/or ethical justifications, as illustrated in the selected sample of popular films and television formats. The current penetration of science and technology into all aspects of life in the modern information society, from household gadgetry to digital fingerprints, both results from and contributes to these constructions of 'cool science' in the popular cultural fabric of the United States. Accordingly, the prevalence of codified knowledge and the rise of modern ICTs in today's post-industrial landscape are considered as providing the necessary socio-cultural backdrop for these cool representations of technoscience to emerge in contemporary film and television.

The central hypothesis of the study will be tested by examining seven recent audiovisual productions in American popular culture. This includes three recent feature films, the mainstream Hollywood productions *The Day After Tomorrow* (dir. Roland Emmerich, 2004) and *The Social Network* (dir. David Fincher, 2010), as well as Joshua Michael Stern's indie production *Jobs* (2013), and two television formats, CBS's crime drama show *CSI: Crime Scene Investigation* (2000-present) with its recently cancelled spin-offs set in Miami and New York City, as well as the domestic sitcom *The Big Bang Theory* (2007-present). The analytical focus is thus placed on popular audiovisual productions that are informed by varying notions of

'cool technoscience,' ranging from depictions of geek chic, spectacular experimental arrangements, and scientific entrepreneurship to media-saturated laboratories, cool-blooded researchers, and their sleek tool boxes. Notwithstanding the obvious aesthetic and generic diversity, the multifarious films and television series analyzed in this study are united by their common emphasis on cool as a novel, yet highly effective source for legitimating the cultural prestige, epistemological authority, and financial, ecological, and other resources enjoyed by contemporary technoscience.

Given this strong analytical focus on popular legitimacy discourses, the present study engages with leading explorations of the problem of scientific legitimation in postmodern society, in particular Jean-François Lyotard (*The Postmodern Condition*, 1979) and his philosophical adversary Jürgen Habermas (*Legitimation Crisis*, 1973), with whom he entered into an intense academic debate on issues of legitimation, consensus, and progress. Famously, Lyotard characterized the crisis of "the metanarrative apparatus of legitimation" (xxiv) as the defining feature of the postmodern age, suggesting that ethical and cognitive sources of metanarrative legitimation (i.e. the humanist understanding of science as a means to progress and liberation vs. the Hegelian notion of science for science's sake) have become entirely obsolete in today's knowledge economy. While Habermas remained skeptical of Lyotard's fervent proclamation of postmodernity and chose to view the present period as a continuation of the yet incomplete project of Enlightenment, his seminal analysis of the universal collapse of governing institutions concurs in the general assessment that legitimation crises constitute a distinctive problem of contemporary late-capitalist societies. Inspired by this rich philosophical dispute, the present study suggests a novel perspective on the multi-layered and heavily contested issue of legitimation: It proposes to understand the unprecedented emphasis in popular cultural representations of technoscience on the (undeniably imprecise and non-factual) notion of cool as replacing or, at the very least, responding to former discourses of scientific legitimation, which are generally regarded as dysfunctional in post-industrial society. Conversely, this means that the roots of what I perceive as a novel popular cultural attitude toward technoscience and its parameters (including equipment, practitioners, and resources) can be traced back to the much proclaimed postmodern crisis of legitimation.

Accordingly, the original contribution to knowledge made by this study can be located in its unique focus on popular American film and television as a matrix for contemporary discourses of scientific legitimation. As suggested by George Lipsitz's epigraph to this introduction, the sideshow staged by popular culture, in this case explored in the realm of mainstream audiovisual production, will be understood as the main event for heightened demands of legitimation in today's information society, of which the United States stand as one of the most prominent instances. Rather than treating popular culture as trivial, immaterial, and merely a

minor prop on the center stage taken by ‘high brow’ cultural practices, the present study will direct the spotlight onto intellectually mundane and highly commercialized instances of mass cultural expression and demonstrate how they may abet the legitimatory needs of one of the noblest and most elitist realms of human activity, i.e. Western industrial science. The study thereby responds to perceptible research gaps in the involved areas of enquiry, as in-depth studies on the representation of contemporary discourses of science via the modes of popular culture, such as, in the present case, feature film and television, are comparably rare. The majority of scholarship in the field portrays a sociological angle, focusing on the quantitative analysis of science or processes of scientific popularization. Analyses adopting an interdisciplinary, interpretative approach to the study of technoscience and its representation in popular cultural production are only slowly emerging. Equally, the study of cool is a relatively new area of research, whose appropriation by scientific representations has so far not been examined. While interdisciplinary studies of cool in the context of fashion, music or the arts abound, the use and effects of cool beyond its traditional realms of thematic application have so far not been the subject of a comprehensive study. By advancing a conceptualization of cool as an affective and aesthetic source of popular scientific legitimation, the present study aims to adopt an innovative approach to engage with these research gaps and thus contribute to the ongoing dialogue between the scientific and the popular in contemporary American society.

The discursive focus on mainstream American film and television as central arenas of popular cultural production establishes the present study as an instance of cultural studies of science, an emergent, heterogeneous area of interdisciplinary research, which creatively absorbs scholarship from history, philosophy, sociology, anthropology, gender studies, and literary criticism. While it is indebted to related and established fields of research like science studies and science and technology studies (STS), its philosophical underpinnings differ substantially from sociological or historical perspectives. In his paradigmatic essay “What Are Cultural Studies of Scientific Knowledge?”, Joseph Rouse explicates the analytical focus of the discipline as follows: “[C]ultural studies of scientific knowledge take as their object of investigation the traffic between the establishment of knowledge and those cultural practices and formations which philosophers of science have often regarded as ‘external’ to knowledge” (4). Examples of such ‘external’ or, in accordance with the above epigraph, ‘sideshow’ practices would be the analysis of advertisements in *Science* (Haraway 1989), the cultural and symbolic co-option between *Star Trek* and NASA (Penley 1997), the personal investedness of researchers exploring tobacco control (Reid 2000), or, in the present case, representations of cool technoscience in popular film and television.

Based on the philosophical premises of this interdisciplinary area of enquiry, the key research questions that are approached in the present study are the following:

- To what extent and in which particular ways are representations of technoscience in recent American film and television predicated on popular notions of cool? What role do different reifications of cool play in these representations? How are channels of popular cultural production, including major film genres and television formats, appropriated to convey a cool image of science?
- Secondly, the study addresses the immediate ramifications of this proposition: Which dominant image(s) of and discourses on science do these cool representations help to create? And how far, conversely, does this affect the nature, operational modes, and the effectuality of cool? The latter question will be discussed in view of the historical development of cool from a countercultural attitude into a phenomenon of modern mass society.
- What are the reasons for the prominent emphasis on cool in contemporary representations of science? Can these representations be understood as an (affirmative) reaction to a potential crisis of scientific legitimation?
- Finally, the study explores the epistemological implications of such cool representations for contemporary information societies, in particular the United States as one of their prime instances.

Naturally, any analysis of cultural significations that centers on their specific treatment of ‘science’ already implies a preconceived definition of the term. As soon as cultural productions are treated and analyzed as representations of science, specific forms of epistemology are identified as ‘scientific’ and hence authorized, demarcated, and attributed cultural and epistemic authority. This makes an objective, distanced analysis of ‘this thing called science’ a vain endeavor—a circumstance which cultural studies of science are not only acutely aware of, but choose to embrace as a potentially powerful accomplice. Preceding the investigation of the above research questions must, therefore, be the task of contriving a working definition of the subject under scrutiny, all the while remaining conscious of its necessary provisionality and epistemological arbitrariness: What is science and which cultural productions qualify as representations of scientific matters? Which characters, if we look at American feature film and television, represent veritable scientists, as opposed to engineers or medical doctors? How have the images of science and technology been merged?

With the last question, the present study joins the wealth of interdisciplinary scholarship on ‘technoscience,’ a term originally coined in the field of bioethics to describe the tightening relationship between science and high-end technology, which have become virtually synonymous in many contexts.¹ Most prominently, the idea of technoscience as a defining feature of contemporary information culture was

1 See chapter 3 of this study for a closer discussion of the term and its relation to the concept of the information society.

developed by the seminal works of Bruno Latour and Donna Haraway, which this study is explicitly indebted to. The latter has perceptively demonstrated that today's omnipresence of technoscience "extravagantly exceeds the distinction between science and technology" (Haraway, *Modest_Witness* 3) and must be regarded as "a mutation in historical narrative" (Haraway, *Modest_Witness* 3), marking a new cultural epoch. The character of scientific practice and the concomitant knowledge it produces have been fundamentally transformed by the growing demands of the industry, politics, and the military. Technologized, mediatized information is omnipresent in modern information societies like the United States and has become virtually inescapable: The penetration of all aspects of life with technoscience, be it in the form of personal computers, mobile phones, or, even more consequentially, biotechnologies, makes a neat separation into formerly distinct domains—the political, the personal, the economic—nearly impossible. It goes without saying that this circumstance also impinges on representations in popular culture, where the boundaries between the images of science and technology, of pure and applied research, are habitually blurred or even indeed conflated.

In setting its own and unavoidably subjective borders between technoscience and related segments of professional activity, the present study chooses to rely on what may be called an intradiegetic definition of the utilized terms: As soon as the subject matter of a given film or television series is referenced as 'science' by the text or paratext, it was treated as eligible for a closer inspection of the employed representational strategies and scenarios. This pragmatic approach appears to be most feasible and promising for the purposes of this study, since the focus of analysis is not placed on the socio-political dynamics accompanying the attribution of the labels 'science' or 'technology' to popular entertainment formats in film and television, but the entwinement of these cultural formations with notions of cool. Throughout the analysis, special attention is granted to the credo of cultural studies of science as a discipline that commits itself to retaining a basic awareness of its necessarily biased position within the scientific landscape (Rouse, "Cultural Studies" 6). Consequently, a major aim of the present volume is to remain self-conscious and reflexive about its own political, epistemic, and personal investment in and engagement with the cultural significations it sets out to study.

STRUCTURE AND METHODOLOGY: A ROAD MAP

The present study is broadly divided into a theoretical and an analytical part. The former is dedicated to the discussion of central philosophical frameworks which my argument responds to, which will be introduced by brief literature reviews of the most relevant studies in the field. As the present study is heavily interdisciplinary in

nature, it draws from a wide range of concepts and theories in the fields of American studies, cultural studies, science studies, media theory, as well as film and television studies. Previous research on cool has yielded some pertinent results in the fields of sociology, anthropology, and art history, which are equally incorporated for reference. An overview of relevant insights gained in these areas of enquiry will prepare the ground for my own take on the popular cultural representation of technoscience and its focus on cool as a viable new form of popular scientific legitimation.

The theoretical part of this study will elucidate the three main theoretical strands on which my argument is based. First of all, this involves theoretical approaches from recent research into the production, operational modes, and functionalities of cool, which chapter 2 on “The Conquest of Cool: From American Counterculture to Global Dominance” will survey in detail. Exploring the defining parameters of the concept, whose pivotal cultural position depends on its very elusiveness and mutability, will constitute a major goal of the initial chapter. The second strand of theory that this study builds upon is the shifting premises of knowledge production in the information society; studies of this will be reviewed in chapter 3 “The American Information Society and the Crisis of Scientific Legitimation.” In addition to the influential dispute between Lyotard and Habermas, the chapter also engages with recent sociological, historical, and ethico-political perspectives on scientific legitimation. Despite divergences in methodology and outlook, the majority of studies concur in the assessment that discussions of scientific legitimation have increased exponentially with the advent of the modern information society. Closely related to studies on scientific legitimation is the second body of scholarship which the chapter will discuss, namely academic explorations of technoscience and its effects on social, economic, and political relations in the post-industrial information society. Finally, chapter 4 entitled “Nerd Alert: Science and the Popular” explores contemporary takes on scientific popularization and dominant models of the relationship between popular culture and science, before advancing my own approach to the study of science and/ in/ as popular culture. To varying degrees, all three areas of academic enquiry reveal perceptible research gaps, which the present study aims to address accordingly.

Following the theoretical part of this study, its analytical part will explore instances of two television genres (the crime drama and the sitcom) and two feature film genres (the disaster movie and the biopic). The selected examples easily rank amongst the most popular genres of the early twenty-first-century, so that each text stands as only the most prominent and/or feasible instance of a wide range of productions with similar aesthetics, narrative styles, and cinematography. The particular choice of primary material allows me to attend adequately to unique aspects in each text’s representation of science, such as the aestheticization of crime-detection technology or the idealization of science as a heroic agent for saving the world. The

common focus on the visual dimension ensures structural homogeneity of the primary sources, as does the regional restriction on popular cultural productions from the United States. Additionally, audiovisual media's modes of production can be regarded as more heavily capitalizing on notions of cool than written sources, since cool clearly emerges, as the theoretical part of this study will show, as a visual effect with a strong Americocentric orientation. In correspondence with W.J.T. Mitchell's seminal *Picture Theory* (1994), the chosen texts are treated as essentially heterogeneous media productions: Despite their evident foregrounding of non-linguistic aspects, the analysis also takes into account the verbal dimension. Since the present study is dedicated to the examination of a recent trend in popular cultural imagery, it centers exclusively on contemporary examples, starting in the year 2000. References to earlier representations of technoscience in the realms of feature film and television are included where necessary for the argument. Despite these occasional and indispensable backward glances, the aim is not, however, to provide a comparative study: The analytical focus is firmly placed on what I perceive as a recently emergent trend in popular cultural imagery of technoscience.

In accordance with the constructionist approach in cultural theory, the scrutinized representations are understood as 'texts' in the broadest sense, i.e. sites of meaning production and negotiation, which will be subject to close reading and critical evaluation. This entails that the visual depictions under analysis are understood as exceeding the realm of mere reflection: Following Stuart Hall's seminal work on cultural representation (1997), the scrutinized examples are regarded as not only reflecting, but producing knowledge and meaning through language, image, and discourse, thereby actively contributing to a specific construction of dominant societal ideas. Consequently, texts are treated as open to revision and active interpretation, thus paying tribute to "cultural studies' sensitivity to differences and contested meanings and identities" (Rouse, "Cultural Studies" 6) in order to counter universalizing tendencies which may propose a false unity of social categories in lieu of their historical and local contingency. The goal of such a methodological approach is anything but the causal explanation of the epistemological consequences of the cultural formations under scrutiny: When exploring discourses and images of technoscience circulated in popular culture, the present study strives to recognize its own epistemic engagement with the objects of analysis, as every cultural critique is ultimately part of the culture it purports to observe. Recognizing one's own ultimately subjective stance toward the subject matter and its consequences for the ensuing interpretation is a key principle of analysis, as is the fundamental methodological premise that there is, provocatively speaking, no fixed meaning to be explained for once and for all. Equally, the focus of the study's analytical part will by no means be placed on the respective texts' purpose as intended by their authors/producers, such as their goal of presenting science in a more or less favorable light. The discipline of cultural studies has shown early on in the academic debate

that these personal motivations are ultimately inaccessible. These are the central aspects in which the methodological approach adopted by the present study notably differs from the more empirically oriented science studies.

Another major difference to contemporary sociological explorations is the present study's eschewal of quantitative enquiry: Since my analysis examines the cultural work performed by popular cultural representations of science, rather than the public responses they evoke or their concrete effects on scientific practice, it is based on close readings of the material instead of empirical analysis. The careful and sustained interpretation of the primary sources allows me to attend adequately and individually to each of the above outlined research questions and conduct a thorough testing of the central hypothesis. In approaching each of the primary texts, my close reading is guided by the following consecutive steps:

- How is science represented in the text? What (narrative) function(s) does it fulfill?
- Which popular notions of cool is the representation of science in the respective text based on? What notions does it mobilize and reinforce or challenge and subvert?
- How are these considerations borne out in a close reading of a signature scene from the text?

These three steps in analyzing a text correspond to the individual structure of the analytical chapters. Accordingly, each analytical chapter starts with a brief overview of the particular image(s) of science advanced in the text and concludes with a close reading of a specific scene or episode, which is intended to combine and consolidate the initial reflections. The aim of the final close reading is to crystallize the key argument of each chapter through recapitulating its central themes and applying them to a pertinent and coherent example from the text.

The first analytical chapter, "'Cool Forensics and the Spectacle of Technoscience in *CSI: Crime Scene Investigation*, *CSI: Miami*, and *CSI: NY*,'" explores the representations of technoscience in the internationally successful crime drama series and its equally popular spin-offs. The *CSI* universe will be understood as displaying an unprecedented focus on forensic science, especially DNA processing, for crime detection. The curious figure of the scientist-detective, a profession specifically invented for the purposes of the show, and the repeatedly stressed centrality of physical evidence are vital factors in *CSI*'s particular representations of science. The tight amalgamation of science with high-end technology, from the chrome-and-steel laboratory to impressive computer simulations, fulfills a crucial aesthetic function. The close reading of one of the show's signature lab scenes will elucidate the way in which science, the epitome of consolidated knowledge, can be represented as cool in the context of the classic police procedural: The focus is shifted from the

knowledge that science produces to a situation which communicates no relevant information at all. The audience is thus greatly encouraged to appreciate, or even indeed tolerate, the heightened narrative attention to tedious scientific processes because of their extreme stylization and visual coolness.

The second analytical chapter entitled “Geek Cool and the Comedy of Science in *The Big Bang Theory*” examines the only text in my sample which employs scientific representations for a humorous effect. Since comedy might be treated as either undermining or affirming the presented situation, thus fundamentally bearing upon the analysis in question, the chapter also includes a brief overview of basic (television) humor theories. Consequently, I will argue that science comes to assume the role of what postcolonial theory classified as ‘the Other,’ since it repeatedly serves to provoke comic, yet highly consequential deviations from the norm. In analyzing the particular notions of ‘geek cool’ advanced by the show’s protagonists, differentiations between conflicting types of mainstream and alternative cool will prove highly useful. Similar to how technoscientific expertise in *CSI* allows the scientist-detectives to emerge as superior and cool, it is *because of*, rather than despite the association with science that the characters in *The Big Bang Theory* display typical contrarian traits of coolness. The close reading will focus on the first season of the show and illustrate the trope of social divergence, which acts as a vital factor in the display of alternative forms of cool as well as the basis for the show’s comedy.

“Only the Cool Survive: The Science of Disaster in *The Day After Tomorrow*” is the third chapter of my analytical part and deals with the genre of the disaster movie. As a prime representative, the Hollywood blockbuster *The Day After Tomorrow* depicts a (man-made) natural catastrophe causing the potential eradication of all life on the planet, which can only be mitigated by Western industrial science and technology. The text features an intricate set of recurring tropes and aesthetics that typically inform the treatment of science in the genre. Hence, I will argue that science (applied sensibly in the hands of a young, adventurous, and cool scientist) acts as the miraculous *deus ex machina* that rescues humanity from the imminent apocalypse. The cognitive value of science emerges as a vital factor in making science and its practitioners appear cool: It is only by virtue of scientific knowledge about the disaster that the characters, above all the all-powerful male hero, are endowed with a higher chance of survival and may hence face the crisis in cool blood. On the formal level, this is augmented by the restricted use of facial close-ups and a high degree of digitally produced special effects, which replace the human agent as the site of affective audience involvement. The scene chosen for close reading will reflect how the core scientific virtues of reason, rationality, and literacy act as the saving grace, with the story’s hero as their living embodiment.

The last analytical chapter of this study, chapter 8 entitled “From Nerds to iCons: Consumer Cool and the Rise of the Scientist-Entrepreneur in *The Social Network* and *Jobs*,” explores the recent biopics about two well-known public fig-

ures in the computer sciences, Apple tycoon Steve Jobs and Facebook founder Mark Zuckerberg. Both films mobilize notions of a countercultural cool that is fundamentally hinged on the social and aesthetic value of modern ICTs. Through its promotion of self-creation, perseverance, and individualism, the genre of the biopic offers a viable vehicle for perpetuating the myth of the American Dream and the self-made man, both of which are employed as key narrative strategies in the movies under scrutiny. However, the analysis will demonstrate that the biopics strive to present their protagonists as scientific innovators and corporate rebels, rather than shrewd entrepreneurs, by projecting the dissenting aura of cool on the popular electronic brands they embody. Resorting to seminal studies on the uses of cool in business culture, the final chapter will argue that the cinematic representations of the tech founders perpetuate the pervasive ideology of contemporary ‘cool capitalism’ (McGuigan 2009) to legitimate commercial exploitation and technoscientific supremacy. The final close reading focuses on the first and only scene published before *Jobs*’s official release date, which depicts the protagonist as sagaciously recognizing the transformative potential of personal technology—not only for corporate business ventures, but, much more consequentially, for its fabrication of consumer cool.

Finally, the study’s conclusion will combine and contrast the findings gained in the close readings of the primary sources and take into account the variability of technoscientific representation across genres and televisual media. This shall allow for more wide-ranging, yet nuanced statements on the production and circulation of cool in cultural significations of technoscience. The individual results from the analytical part of this study will thus serve as a well-founded basis for the final critical evaluation of my initial research questions and augment the verification of the central hypothesis. Additionally, the concluding chapter will place the discussion into the larger context of the academic study of popular culture and examine the inferences that can be drawn from the preceding analyses.

As this brief road map for the ensuing pages intends to show, a major aim of the present study will be to determine whether the growing emphasis of popular scientific imagery on cool may indeed be regarded as a response to the obsolescence of former sources of legitimation. The analysis of the above listed, multifarious films and television productions shall help to shed light on current processes of interaction between science and popular culture, both of which constitute pivotal sources for change in post-industrial American society. Through this informed assessment, the study seeks to make a valuable contribution to contemporary cultural studies scholarship on the discursive nature of (scientific) representation and demonstrate that sometimes indeed, the analytical spotlight is best placed on the supposed side-show.