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An Interdisciplinary Review of Research on Sound as Communication

# The Sounds of Media

El sonido de los medios. Revisión interdisciplinar de las investigaciones sobre el sonido como comunicación

## ABSTRACT

Sound remains significantly underresearched as a form of communication, as a modality of experience, and as a resource for cultural expression and social interaction. This is in spite of the centrality of sound in most media and communicative practices, including face-to-face interaction and digital networks. Recent years, however, have witnessed a revitalized interest internationally in the area. This review revisits previous research on three sound prototypes – speech, music, and environmental soundscapes – which has mostly been undertaken in separate disciplines: rhetoric, philology, linguistics, classical musicology, popular music studies, architecture, discourse analysis, and more. The article, further, outlines the potential for more interdisciplinary research on sound as communication – as a source of meaning and as a resource for action. This potential is suggested by the diffusion of mobile media and the pervasiveness of communication in everyday contexts. At present, ordinary media users are in position, not only to receive, but also to send diverse forms of auditory, visual, as well as textual information. Users are becoming senders in new configurations of one-to-one, one-to-many, and, increasingly, many-to-many communication. Ubiquitous soundscapes and other mediascapes are even challenging received notions of what a ‘medium’ is and could be. In conclusion, the article suggests that the growing current interest in sound studies itself may be the product of a reconfigured media environment in which sound has come back in style.

## RESUMEN

Es significativo que resulte todavía escasa la investigación sobre el sonido entendido como forma de comunicación, como modalidad de experiencia y como recurso para la expresión cultural y la interacción social. Y ello a pesar del papel central que el sonido tiene en la mayoría de las prácticas comunicativas y mediáticas, incluyendo la interacción cara a cara y las redes digitales. En los últimos años, sin embargo, hemos observado un renovado interés, por parte de la comunidad académica internacional, en este área. Esta revisión atiende a las investigaciones previas sobre tres tipos de sonido –la palabra hablada, la música y los paisajes sonoros ambientales– que hasta ahora han sido en su mayoría abordados por disciplinas diferentes y separadas entre sí: retórica, filología, lingüística, musicología clásica, estudios de la música popular, arquitectura, análisis del discurso y otras. Este artículo, además, enfatiza el potencial de un mayor número de investigaciones sobre el sonido como forma de comunicación, como fuente de significado y como recurso para la acción; lo que hoy resulta manifiesto por la difusión de los medios móviles y por la penetración de la comunicación en los contextos cotidianos. En la actualidad, los usuarios de los medios de comunicación tienen la capacidad, no sólo de recibir, sino también de enviar diferentes dinámicas auditivas y visuales, así como también información textual. El usuario se está convirtiendo en emisor de nuevas configuraciones de comunicación uno-a-uno, uno-a-muchos, y cada vez más, muchos-a-muchos. La ubicuidad de los paisajes sonoros y de otros paisajes mediáticos desafía, pone en entredicho, las nociones tradicionales relativas a lo que es un «medio» y a lo que puede ser. En conclusión, este artículo sugiere que el renovado interés actual por los «sound studies» puede ser en sí mismo el resultado del entorno mediático reconfigurado, en el que el sonido se ha puesto de moda.

## KEY WORDS / PALABRAS CLAVE

Sound, speech, music, soundscapes, rhetoric, philology, linguistics, musicology.

Sonido, comunicación oral, música, paisajes sonoros, retórica, filología, lingüística, musicología.

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## 1. Introduction

Sound is a constitutive part of diverse media and communicative practices in contemporary society. And yet, sound remains significantly underresearched as a form of communication, as a modality of experience, and as a resource for cultural expression and social action, even if recent years have witnessed a revitalized interest internationally in the area (for overview, see Bull & Back, 2003). Because sound studies have no natural home in the academy, no full-scale equivalent of disciplines such as art history and film theory that address still and moving images respectively, any review will offer a selective recombination of findings and insights. The present review focuses on sound as communication — as a source of meaning and as a resource for action — revisiting previous work on three sound prototypes: speech, music, and environmental soundscapes. Whereas much work has been anchored in disciplines such as linguistics and musicology, a number of contributions have fallen either outside or between disciplines or, as in the case of musicology, they have challenged the discipline from within. In conclusion, the article presents a meta-perspective on research, suggesting that the current interest in sound studies itself may be the product of a reconfigured media environment in which sound has come back in style.

## 2. Speech: from classical rhetoric to modern discourse studies

«In the beginning was the Word, and the Word was with humans, and the Word was humans». A secular restatement of the New Testament (John 1:1-3) serves to articulate the modern understanding that speech or symbolic communication is constitutive of being human. One distinctive feature of language is that it enables reflection and negotiation before individuals, organizations, or whole societies take action. Language supports not just great leaps of the individual imagination and grand collective projects, but, perhaps most important, doubt and delay. As noted by Aristotle (Clarke, 1990: 11), words allow humans to consider that which is at least temporarily absent—in space, in time, and from one's immediate experience—through thought experiments and dialogue. Speech, thus, can represent what is absent from, but imagined within, face-to-face encounters, opening up universes of what is not yet, what might be, as well as what ought never to come to pass. Present sounds allow for absent realities. Writing, print, electronic, and digital media, each in specific ways, radically extended the capacity of humans to imagine, represent, and communicate, also

in each other's absence. Present media allow for absent realities, absent communicators, or both.

Rhetoric, being the grandparent of language study, drew on the resources and conventions of oral tradition when developing as a social practice as well as a field of research. Yet, paradoxically, «classical» rhetoric was being codified and consolidated during the transition to literate culture. Havelock (1963), for one, noted how Plato's attack on the bardic poets for being less than trustworthy in matters of government, historiography, and science, announced the passing of an oral culture. In areas as diverse as commerce, religion, warfare, and politics, writing and literacy provided strategically important means of social organization and control. Rhetorical practice itself was informed and sustained by written manuals — alphabetization facilitated codification. And, it was not least in the shape of «secondary rhetoric» (Kennedy, 1980: 5), as applied to diverse genres of literary and other written communication, that rhetorical concepts continued as a major influence on European scholarship and education into the nineteenth century. Poised between oral practice and literate form, rhetoric has remained a source of inspiration for communication theory up to and including mass media studies.

The plethora of practical manuals on the art of speaking well in public help to account for the still common reference to «only rhetoric» — form without substance. It might be more appropriate, in fact, to refer to «only literacy» — texts without context, as memorized and delivered on cue. Classical rhetoric had emphasized the intimate relation between knowing that something is the case, and knowing how to speak about it for a purpose and in a context. Aristotle observed that rhetoric is the source of a particular kind of knowledge which is probable and reasonable in relation to the business at hand — in comparison, logic can provide certain or necessary knowledge across contexts, at least about some aspects of reality (Clarke, 1990: 13). An important legacy of rhetoric for contemporary communication studies, then, is its close focus on context. This focus has been revitalized, for example, by the «new rhetoric» (Perelman, 1979). As speech and other auditory modalities of communication are being reembedded in everyday contexts through mobile technologies (Ling, 2004), both «old» and «new» rhetorics can offer theoretical and methodological frameworks for empirical research.

The distinctive capacity of writing and, later, print to transcend context made the written word a focus of language study for centuries. As a social infrastructure and a source of power, sustaining empires and cosmo-

ologies, literacy required both a canon of forms and procedures, and a class of literate individuals to maintain it, on behalf on the powers that be. Philology (Cerquiglini, 1999), while focused originally on classical Greek and Latin, developed a wide range of general techniques for performing textual criticism of both historical, scientific, and literary works, fact as well as fiction, in different languages. By establishing the origins and relative authenticity of diverse texts, philology served as a crucial mediator of knowledge from and about the past, recontextualizing history in the present. The essentially contestable nature of this enterprise was witnessed, for example, during the nineteenth century when philology, while acquiring a new level of precision, participated actively in political projects of nation-building. By documenting and delimiting «national» languages and literatures, philology provided justifications for what was then a new type of imagined communities (Anderson, 1991: 67-82). Across national boundaries and social contexts, moreover, literacy became a generalized resource of cultural distinction (Bourdieu, 1984/1979). Literacy gives access to a particular heritage, and it empowers the literate to negotiate inclusion in and exclusion from this heritage, even the appropriate language for doing so. Like money, literacy talks – it speaks of social structure in action. The different historical varieties of language study, by implication, speak of how cultural capital has been administered by scholarship on behalf of society.

Linguistics in its twentieth-century incarnation performed a reorientation, on the one hand, away from the diachronic and comparative attention of philology to language as a vehicle of history and culture. Instead, linguistics came to highlight language as a structure in its own right and in a synchronic perspective. The seminal work of Saussure (1959/1916) served as a key influence on other structuralist and systemic turns beyond linguistics and into social sciences. On the other hand, twentieth-century language study remained focused on writing in its various shapes and, for all practical purposes, on a canon of written language – on form and norm. One ambition of modern linguistics was to develop into an autonomous «science» beyond a subordinate role of servicing literary and

other «arts» of language. That ambition was expressed most systematically by so-called transformational-generative grammar (TG), which sought to discover a «deep structure» of language that would account for the seemingly infinite variety of its «surface structures» in speech and writing (Chomsky, 1965). TG was informed by the widely influential notion of human cognition as computing; a metaphor that was taken literally, to varying degrees, in the borderlands of TG and AI, or artificial intelligence research (Boden, 1996). Precisely speech, however, with its sensitivity to context has posed one of the most serious obstacles so far in the development of operational AI systems.

In recent decades, linguistics has returned to speech as a key object of study, including the many public

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and private settings in which language use makes daily life possible. Under a generic heading of discourse studies, much work has addressed discourse as a social process over above texts as the products of language (Wetherell, Taylor & Yates, 2001). In linguistic terminology, discourse studies go beyond the grammar, semantics, and phonetics of single, abstracted sentences, to include pragmatics, which examines the social uses of language in complex sequences and situated contexts. Several factors, internal as well as external to research, help to explain this «pragmatic turn» (Jensen, 2002: 38-39). Internally, linguistics joined an interdisciplinary turn across the humanities and social sciences, exploring the role of language in the micro-coordination of everyday life. To exemplify, sociolinguistics has gone beyond the documentation and comparison of «dialects» and «sociolects» in order to account for them as implicit worldviews and constitutive practices of social life. The title of one classic text –«the logic of non-standard English» (Labov, 1972/

1969)– indicates that, as late as 1969, it was still necessary to argue the point that, in this case, spoken Black English was more than an illogical aberration from the norm.

The external circumstances of language study help to explain such a «finding». The anti-authoritarian upheavals during the 1960s were questioning received notions of a common cultural heritage, as well as of ethnicity, class, and gender. The challenges to consensus were being amplified throughout society by a new media environment in which, not least, television was transcending social boundaries (Meyrowitz, 1985). Importantly, the challenges were being posed not merely as «issues» in media content, but equally through the form of communication – through diverse variants of language as practiced by distinctive subcul-

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tures. The cultural diversity of language was now undeniably there to be listened to every night on the news, also by language scholars.

Over the longues durées of history, it is fair to conclude that the study of language has tended to revolve around literacy. Societies depending on writing similarly came to depend on practices for administering and maintaining the written word. Like language itself, language study is conditioned by its material and institutional circumstances, including the technologies available. Before the late nineteenth century, speech disappeared into the air unless documented by hand for particular purposes (Millard, 1995). From the 1940-50s onwards, lightweight recording equipment made fieldwork and subsequent transcriptions of language use more feasible. And, recent «corpus linguistics», working from empirical samples rather than imagined prototypes, depends on computer analysis to determine how people actually speak (and write) (Halliday, Teuberg, Yallop & Cermakova, 2004).

In sum, current sound studies are positioned to benefit from previous research about language on at

least two counts. First, the rhetorical tradition as well as the interdisciplinary field of discourse studies have offered many and diverse insights into speech as practice and process. Second, philology and linguistics have provided concrete approaches to writing both as a cultural technology and as an analytical resource, as enhanced by mechanical and digital means of reproduction. Speech –and the study of speech– is amplified through written techniques of notation, transcription, and analysis.

### 3. Music: from autonomous works to interested listeners

Form and norm have served as guiding principles for research on music, as well. For one thing, the academic study of music –musicology– arguably has been wedded less to sounds than to notes. Traditionally, the discipline has placed a strong emphasis on «works» as formal objects, as they are represented in written scores. This is in spite of the fact that song and improvised performances presumably account for the majority of all musical events both historically and currently, literally accompanying people from cradle to grave. For another thing, musicology has been

remarkably focused on a particular portion of the notated heritage, namely, the canon of «classical» instrumental music especially from the late 1700s onwards. (The term «classical» music itself dates from the late 1800s (Potter, 1998: 65) and remains debated.) If literary and other aesthetic studies have cultivated the autonomy of artworks with a passion, musicology has pursued aesthetic autonomy with a vengeance.

Like rhetoric, music has been practiced as both art and scholarship since Antiquity. More so than rhetoric, musical scholarship has retained an intimate link with musical performance, as witnessed at conservatories as well as university schools of music. Scholars will normally be expected to practice music or, minimally, to be formally «literate». Also the published literature indicates that it is the aesthetics of musical works as means of expression and contemplation that has remained at the top of the «research agenda» – if that is a relevant terminology (for classic texts, see Treitler, 1998). In comparison, the broadly social uses of music in politics, religion, or primary socialization have remained on the periphery of the field as a minority con-

cern. This is in spite of early contributions on music by some of the founding figures of sociology (e.g., Weber, 1958/1921). As in the case of language study, the profile of academic musicology is explained, in part, by its infrastructural position vis-à-vis other social institutions. Musicology has served, in large measure, as the keeper of canonical tradition regarding the appropriate social uses of sound, as defined by shifting religious and secular establishments. The implicit commitment to musical performance, catering to the powers that be, has manifested itself, moreover, in particular scholarly techniques. According to Kerman (1985: 59), the meticulous, archival care for the «facts and texts» of music amounts to a variant of positivism. It is the socially interested nature of both music and musicology that a great deal of recent work has come to underscore.

The reassessment and reinvigoration of musicology that seem to be underway (Cook & Everist, 1999) have been facilitated by two specific departures from the mainstream. From within, the tradition has been challenged head-on by the so called «new» or «critical» musicology, which has brought the origins of music in, as well as its implications for, society to the fore, reemphasizing meaning, power, class, gender, and other classic concepts from the social sciences and cultural studies in the discourse of research (Kramer, 2002; Leppert, 1993; McClary, 1991; Subotnik, 1991). According to Subotnik (1991: 141), the interrelation of music and society should be treated, not as a hypothesis to be tested, but as a premise for research in the first place. While internally diverse, the New Musicology has taken a broadly critical, emphatically theoretical, and historically grounded position, drawing inspiration from a Frankfurt-School lineage of social theory, feminism, and discourse theory, in order to substantiate some of the ways in which music articulates socially interested perspectives on reality. In addition to raising controversial issues regarding musical divides between social segments, and recovering female composers and musicians that have gone unrecognized in music history (McClary, 1991), this group of researchers has also broadened the methodological scope of musicology, drawing on visual representations of music and musicians as well as other historical evidence in order to place musical texts in their social contexts (Leppert, 1993). Still, the methodologies of the New Musicology have, in practice, stayed comparatively close to the core musical «texts», whether notated or performed, treating other evidence as supplementary. Most important perhaps, the process of listening to and employing music for social ends is still

largely being extrapolated from the works rather than from evidence concerning the listeners themselves, despite some recent work on hearing in social and historical contexts (Erlmann, 2004). In this respect, research on music may be retracing the steps of media research and, not least, film studies, which, until quite recently (e.g., Stacey, 1994), relied on an audience of one –the researcher– to furnish interpretations of the media text at hand.

The second, external challenge to musicology has come from the field of popular music studies (for key texts and overview, see Frith & Goodwin, 1990; Middleton, 1990). Whereas «popular» music might be considered both historically and ontologically primary, the term is often used as a synonym for «not classical», and is most commonly associated with those genres that reach a mass audience through technological reproduction. Frith (1996: 226) has suggested that one may begin to think of the history of music generally in terms of a folk stage grounded in the body, an art stage sustained by notation, and a pop stage enabled by reproduction, which have entered into shifting, remediated configurations. Addressing the ambiguous position of much contemporary popular music in between «genuine» folk and «commercial» pop sources, the field has produced modern classics of its own, for example, on the place of music in African-American culture (Keil, 1966) and on the emotional qualities of music in the media (Tagg, 1979). Moreover, studies of the words or texts of popular songs (e.g., Middleton, 2002) serve as one reminder that «classical», instrumental music might be considered a historical anomaly — music and speech have typically been constituents of the same cultural practice. The downside of the focus within popular music studies on subcultures and social institutions is that, frequently, less explicit attention is given to musical practices as music. Middleton (1990: 158), for one, noted a tendency for subcultural theory to rely excessively on homology to account for the relationship between musical and social structures: Rock, for instance, may qualify as «screw and smash» music, but that description says little about its specificity as a cultural practice of sound and speech. Studies of music and society still tend to be silent on either society or music, partly because of limitations in the available theoretical and terminological repertoires.

Music follows people from cradle to grave, but not so musicology. One indication that this situation may be changing is the publication of volumes examining music and society which bring (new) musicology and popular music studies inside the same covers (Clayton, Herbert & Middleton, 2003). Indicating one agenda

for further research, Peterson and Kern (1996) found that while the traditional divide between highbrow and lowbrow music tastes may be dissolving, it is especially highbrow listeners who have embraced popular music, as well. At an institutional level, Born (1995) showed how, over the course of the twentieth century, avantgarde «serial» music contributed to new configurations of «classical», experimental, and popular music. And, in the context of everyday practices, Finnegan (1989) detailed how different conceptions of «composition» and «performance» enter into various musical subcultures, high and low, professional and amateur. In each case, technology is changing the conditions of what will count as music, for whom, and to what social ends.

#### 4. Soundscapes: from music of the spheres to ambient environments

The notion that the natural environment, indeed, the entire universe, carries meanings that are articulated, in part, through sound, is familiar from the ancient idea of the music of the spheres (James, 1995). The harmony of the spheres was understood as an expression of the numerical ratios of a «world-soul», yielding mathematical principles with implications for astronomy, metaphysics, and music, and, according to some, sounding the universe. (A contemporary parallel is «DNA music», generating musical syntheses from DNA sequences (Gena & Strom, 2001).) Whereas a modern perspective would suggest a categorical distinction between natural events and human actions, and between incidental and intentional meanings, nevertheless humans habitually ascribe significance to both social and natural settings — as symbols in their own right or as arenas of action. Watzlawick y otros (1967) made the point that one cannot not communicate, noting that the presence of humans in a shared time and space necessarily implies communication: The body shows itself, and it sounds. Social contexts, similarly, cannot not communicate, at least as enabling conditions of what can or should, cannot or should not, occur there. From homes and offices, to public transportation and rural landscapes, environments are increasingly planned and engineered, thus anticipating, configuring, and contributing to meaningful interactions, including silence. Appadurai (1996) has suggested «scapes» as a covering term for various material and simultaneously meaningful frameworks of human action. Soundscapes, while currently associated, for example, with mobile media, have taken a variety of historical forms.

The specific terminology of «soundscapes» is nor-

mally credited to the Canadian composer and musicologist, Murray Schafer (1977). Recalling the medium theory (Meyrowitz, 1994) of his countrymen, Harold A. Innis and Marshall McLuhan, that media typify particular epochs of culture and consciousness, Schafer interpreted the history of sound as a process of schizophrenia, by which technologies have increasingly divorced sounds from their origins, thus potentially polluting both social and natural contexts, and desensitizing audiences to the potential richness of sound in work as well as leisure. One of Schafer's important contributions has been to identify sound as a general and complex modality that should be studied as a natural phenomenon, an artistic expression, as well as a mode of communication. As a framework for theory development and further empirical research, however, Schafer's position is limited by its highly normative premises, in effect demonizing noise, praising silence, and implicitly advocating a return to preindustrial soundscapes. A comparable position within communication studies, influenced by the media ecology of Postman (1985), appeared in Albrecht (2004).

Perhaps surprisingly, historians have been at the forefront of recent sound studies, reassessing the evidence regarding past soundscapes, which, unlike textual and pictorial sources, literally disappeared into the air until the advent of recording technologies from the late 1800s. One important contribution came from Corbin (1998), who explored the significance of village bells as frame-setters in the French countryside during the nineteenth century. Beyond the traditional enactment of standardized time in local communities, bells gave rise to deep social conflicts after the French revolution of 1789, involving state authorities, the church, as well as laypeople, particularly over the appropriate religious or secular uses of bells within a community. And, as part of conflicts between communities, bells were abducted, reused, and recast. In a different national setting, the recasting of bells into cannon could be seen to symbolize the predicament of the American south after the Civil War (Smith, 2001) — both the war and the sounding bells were lost.

In a contemporary perspective, soundscapes have increasingly been reengineered and remediated, from incidental spaces of hearing to dedicated places of listening — whether in private homes or concert halls. Thompson (2002: 7) noted how the engineering of specific contexts for listening entailed a «silencing of space», as reverberation came to be defined as noise, to be replaced by different degrees and varieties of «virtual sound». Also audiences fell silent, as attention became focused on the stage and its musical perfor-

mances, giving rise to individual, interior experience, rather than social interaction with others in the hall (Johnson, 1995). Other public places, such as shops and restaurants, have been studied as soundscapes comprising both specific information and contextual atmosphere. One distinctive component of modern urban life has been «muzak», establishing an ambient ground through «mood music», or what Lanza (1994) referred to as «elevator music», in workplaces, shops, and other enclosed soundscapes (Barnes, 1988).

Private settings, equally, have constituted historically shifting soundscapes for families and their social circles, large or small, offering piano recitals, radio broadcasting, or home-stereo listening. With portable audio devices came additional degrees of freedom in the creation of ad hoc soundscapes, beginning with the portable gramophone at picnics and «discos» during the 1910s (Nott, 2002: 33-43). While the transistor radio made music and other sounds more mobile from the 1960s, it still imposed a collective soundscape on its immediate surroundings – spaces of hearing rather than places of listening. The Walkman from 1979 enabled individual listeners to create a private auditory realm within the public domain. Bull (2000) has shown the multiple ways in which the Walkman enabled people to negotiate the experience of self vis-à-vis social reality (see also Gay, Hall, Janes, Mackay & Negus, 1997). And, with mobile phones, iPods, and other playback devices, portable and personalized soundscapes are proliferating in public, as well (Humphreys, 2005). «Early» notions of immersive mediascapes during the 1980s (Levy, 1993) envisioned a form of virtual reality that would transpose a full-fledged context onto a single multi-functional text –the world in a medium. Current developments in ubiquitous and pervasive computing, potentially, reverse this relation, as they embed media in diverse objects, artefacts, and settings (Greenfield, 2006)– the world as a medium. Soundscapes and ubiquitous mediascapes generally are challenging received notions of what is a medium.

## 5. Conclusion

Sound studies are still in their early stages, and have much to gain from an extraordinarily broad range of disciplinary and interdisciplinary sources. This

review has recovered a variety of studies on three prototypes of sound –speech, music, and soundscapes– for media and communication research. Digital media provide a special opportunity to reexamine both the expressive qualities and the social uses of sound across different media types — from bodies speaking and singing, to avatars responding in kind. Digitalization has brought sound and its diverse uses as information, communication, and action to the fore once again.

As shown by Peters (1999) in his history of the idea of communication, the available technologies and institutions of communication help to explain how researchers as well as the general public, over time, have thought of different media and modalities. The coming of mass communication, during the nineteenth century, served to thematize «communication» as a general human practice, joining face-to-face and technologi-

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cally mediated communication in a common vocabulary. During the post-1945 period, another general category of «media» emerged, as epitomized by Marshall McLuhan (1964), even if the reference was primarily to «mass» media. Indeed, the record of communication research as a whole still shows the existence a great divide between two separate worlds of «interpersonal» and «mediated» communication studies (Rogers, 1999). It is only within the last decade or so that students of the media have come to refer to themselves in terms of «media and communication» research, as symbolized by the IAMCR, which used to be the International Association for Mass Communication Research, but which, since 1996, is the International Association for Media and Communication Research. The field is currently working out the implications of that seemingly innocent change of terminology.

Perhaps communication researchers are still catching up with the general idea of communication. Perhaps media researchers are still in need of a general definition of media. Sound studies are a good place to

continue the search for both media and communication.

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