From Cyber to Digital Anthropology to an Anthropology of the Contemporary?

Philipp Budka (University of Vienna)
www.philbu.net

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This paper is first taking a brief look back on the "anthropology of cyberculture", formulated as anthropological research area, concept and issue by Arturo Escobar in 1994. Inspired by science and technology studies, he painted a very vivid picture how anthropology and ethnography could contribute to the understanding of new bio and communication technologies as society's transforming driving forces. Pushed by powerful digital media technologies, such as internet applications and services, a "digital anthropology" recently developed, particularly under the influence of material culture theory. What is the legacy of the anthropology of cyberculture when dealing with new digital practices? And is it actually necessary to construct branches of anthropology that deal with contemporary sociocultural developments? Or should we just open the discipline to an "anthropology of the contemporary", as Rabinow and Marcus (2008) propose.

Cyber anthropology – the anthropology of cyberculture

The term "cyberanthropology" etymologically derives from neologisms such as "cyberspace", "cyberculture" or "cyberpunk", notions that were created by science fiction and popular culture. The term "cyberspace" for example was for the first time mentioned in the science fiction novel *Neuromancer* by William Gibson in 1984. The prefix "cyber", on the other hand, was established by the mathematician Norbert Wiener at the end of the 1940s by using the notion "cybernetics" to describe the complex of sciences that deal with communication and control in artificial and organic systems, such as human-machine interaction. Wiener had in mind the Greek word for "steersman" or "governor" – *kybernetes* – to describe a steering or controlling device for machines. In fact the Greek term had already been used long before Wiener by André Ampère and Plato to describe related phenomena (cf. Wiener 1985).

It was after the Second World War and at the beginning of the Cold War when cybernetics as (inter)disciplinary project was established and popularized, mainly by the work of Wiener (1948). There are several definitions of cybernetics which basically all build around communication and control of systems, may they be informational, mechanical or natural. Wiener defines cybernetics in

its basic form as a theory of messages with the goal "to develop a technique for producing and refining a message form that is recognizable and efficient as both a mobile value-bearing container of meaning and a sensory prosthesis" (Axel 2006: 359). The interdisciplinary work of the cyberneticians had an important effect on anthropologists by bringing communication and technology into the focus of their projects. Among those anthropologists were Claude Lévi-Strauss, Margaret Mead, Clifford Geertz and Gregory Bateson (Axel 2006).

Bateson worked in different scientific fields, from doing ethnographic fieldwork in New Guinea to research among schizophrenics and alcoholics in California (e.g. Bateson 1936, 1972). He always worked in an highly innovative and interdisciplinary way, deploying concepts and methods from a whole range of disciplines. What was of particular interest to him was how organisms, humans and animals, relate to each other and their environment through communication. He was searching for a way to structure and analyze what he called the "ecology of ideas" or the "ecology of mind".

In cybernetics he found a newly developed discipline that he expected to contribute decisively to the answering of his questions. Questions about difference, holism, context, meaning, system and the self in human and non-human interaction were in the centre of his research, creating an epistemology of cybernetics. For Bateson (1972: 483) cybernetics is "at any rate, a contribution to change – not simply a change in attitude, but even a change in understanding of what an attitude is". Cybernetics for him is crucial to understand complex systems, human-non-human interaction, communication within larger environments and ecologies, and also the human mind. How this developed into cyberanthropology will be discussed in the following.

To conduct cyberanthropology it is necessary to identify the anthropological fields of inquiry. This was for the first time done in 1994 by Arturo Escobar with his article "Welcome to Cyberia: notes on the anthropology of cyberculture" in *Current Anthropology*. Escobar uses the concept of "cyberculture" to analyze fundamental transformations in the structure and meaning of "modern" society and culture due to computer information, and biological technologies: "As a new domain of anthropological practice, the study of cyberculture is particularly concerned with the cultural construction and reconstruction on which the new technologies are based and which they in turn help to shape" (Escobar 1994: 211).

For Escobar (1994, 1995), the study of cyberculture refers particularly to new technologies in two areas: computer and information technologies, including artificial intelligence, and biotechnologies,

including genetic engineering. The first are bringing about a regime of technosociality, a process of sociocultural construction activated by the new technologies. Biotechnologies, on the other hand, "are giving rise to biosociality, a new order for the production of life, nature and the body" (Escobar 1994: 214). In both forms of sociality, nature and culture are reinvented under specific political and economic conditions that should be considered in an anthropology of cyberculture (Escobar 1995).

Cyberanthropology or the anthropology of cyberculture deals with technologies and how they are constructed, implemented and utilized in society and culture. In this respect, cyberanthropology is not something completely new. Since the 1950s, anthropologists have been studying new and modern technologies and their impact on, particularly non-western, societies to an increasing degree (e.g. Godelier 1971, Pfaffenberger 1992, Sharp 1951).

As Escobar (1994) among others (e.g. Pfaffenberger 1988, 1992) mentioned, it is difficult to adapt these approaches to highly complex technological systems in modern societies and cultures. This does not necessarily imply an hierarchization of sociotechnical systems. All those systems, from e.g. pottery making in India to software engineering in California, are highly complex and heterogeneous as Bryan Pfaffenberger (1992) in his discussion of sociotechnical systems for an anthropology of technology and material culture emphasizes. He concludes that sociotechnical systems recognize complex social structures, nonverbal activity systems, advanced linguistic communication, the ritual coordination of labour, advanced artifact manifacture, the linkage of phenomenally diverse social and nonsocial actors, as well as the social use of diverse artifacts as parts of a single complex that is simultaneously adaptive and expressive (Pfaffenberger 1992: 513).

A relatively new disciplinary project, the study of science and technology, now deals with questions of technology construction and usage in the context of modern societies and complex situations. But also anthropology is on its way to put forward the analysis of complex sociotechnical systems in contemporary society. Also because there are questions about the sociocultural meaning of technology that only anthropology can answer (cf. Pfaffenberger 1988, 1992).

Already in 1988, Pfaffenberger argued against, what he calls, "technological somnambulism" and technological determinism in anthropology. The first means that there is no causal link between technology, society, and culture and that hence technology is neutral. The latter understands technology as the dictating driving force of social life, assuming that a linkage between technology and society always exists. Instead Pfaffenberger (1988: 244) argues that technology should be

understood as “humanised nature”, a social construction of our surrounding nature.

Technology is thus a socially constructed phenomenon, a social or, following Marcel Mauss, a “total” phenomenon (Pfaffenberger 1988: 244). Technology as total social phenomenon is more than material culture since it combines the material, the social and the symbolic in an associative web. As we will see later, this does mean that material culture is not a useful conceptual approach to understand sociotechnological processes and phenomena, for instance practices of internet appropriation. Pfaffenberger (1988: 243) urges anthropology to concentrate on human social behaviour “in which people engage when they create or use a technology”. The anthropology of cyberculture has been following this path in further developing the anthropology of technology and material culture to understand the growing complexity of sociotechnical systems and phenomena in contemporary societies.

How should anthropology deal with, for instance, the emerging digital information and communication technologies (ICTs)? What are the sociocultural, political and economic consequences of these new media technologies? Escobar (1994: 216) identified three different projects at the beginning of the 1990s that tried to answer these questions:

(1) According to David Thomas “we are witnessing a transition to a postcorporeal stage that has great promise for creative social logics and sensorial regimes” (Escobar 1994: 216). For anthropologists it is inevitable to study how these “new virtual world technologies” are socially produced (Thomas 1991: 33).
(2) The second project – “cyborg anthropology” – considers its main goal in “the ethnographic study of the boundaries between humans and machines” that are specific to contemporary societies (Escobar 1994: 216, Downey et al. 1995).
(3) The anthropology of cyberculture, as the third project, finally, holds that the discipline of anthropology is well suited for describing, “in the manner of an initial cultural diagnosis, what is happening in terms of the emerging practices and transformations associated with rising technoscientific developments” (Escobar 1994: 216).

Within an anthropology of cyberculture, which focuses on the cultural contexts of “technoscience”, ethnographic research can be done in different areas or domains (Escobar 1994, 1995):

(1) Fields where new technologies are produced and used, for instance computer labs and companies, Internet Service Providers and virtual reality design centres, but also homes, schools and workplaces as areas of consumption and reception.

(2) Through the internet people are forming networks and communities with their own code of conduct and language. These "virtual or online communities" and "online social networks" offer a rich social field for ethnographic investigation. Ethnographers can, for instance, study the diverse relationships between language, social structure and cultural identity that are produced by computer-mediated communication.
(3) "The political economy of cyberculture" is another field of ethnographic studies that investigates the relationship between "information" and "capital" as well as the cultural dynamics and politics that "information" sets in motion (Escobar 1994: 220). Here, the political and economic relations between so called "developed" and "developing" countries must be taken into consideration.

In his book *Cyborgs@Cyberspace* David Hakken continues this outlook into the future of ethnography in relation to ICTs. He, basically, identifies a potential of, what he calls "cyberspace ethnography" to contribute substantially to the "cultural construction of this new social arena" (Hakken 1999: 2). For the ethnographic study of cyberspace it is initially necessary to outline the "key issues" (Hakken 1999: 7-11):

(1) the basic characteristics of the entities carrying cyberspace;
(2) the self-identities formed by such entities;
(3) the micro, close social relations these entities construct (e.g. with intimates and friends);
(4) their meso, intermediate social relations (e.g. community, regional, and civil relations);
(5) their macro-social relations (e.g. national, transnational);
(6) the political economic structures which cyberspace entities produce and reproduce and by which they are constrained.

These issues form, on one hand, a framework of cyberspace as sociocultural space of human interaction that is predestined to be investigated in ethnographic ways. On the other hand the above levels of social interaction are intended to support ethnographers in focusing on the next questions that should be asked about "this possible new way of being human" (Hakken 1999: 10).

Studies on cyberculture are, of course, not only an anthropological project, but instead an inter- and transdisciplinary one including a multitude of disciplines, from philosophy to communication studies (e.g. Silver 2004). But the discipline of anthropology, with its elaborated methods and concepts, is predestined to investigate technologies and their sociocultural construction and

consequences (e.g. Miller 2010, Pfaffenberger 1988, 1992). Within new highly dynamic spaces of sociocultural interaction and organization created and maintained through ICT practices, anthropologists deal with phenomena well known to the discipline, such as gender, ethnicity, religion, mystification or exchange (e.g. Budka & Kremser 2004).

In addition, the anthropology of cyberculture can contribute to the blurring of categories and boundaries, such as nature/culture or human/machine that are sometimes treated as fixed and indestructible (Escobar 1995). "Cyberculture, moreover, offers a chance for anthropology to renew itself without again reaching, as in the anthropology of this century, premature closure around the figures of the other and the same" (Escobar 1994: 223). Or to put it in another way, the anthropology of cyberculture according to Escobar (1995) holds the potential to overcome the dichotomy of the "modern self" and the "primitive other".

In a more recent theoretical contribution, Brian Keith Axel (2006) focuses through a linguistic turn in the anthropological discussion about ICTs on the aspect of communication rather than on technology. He suggests three postulates for an anthropology of, what he calls, "new technologies of communication" (Axel 2006: 373):

(1) ICTs exist within ethical systems of communication;
(2) Communication is a language ideology that contributes to a neoliberal reality;
(3) ICTs generate desire for communication and contribute to fantasies about time and space.

By deploying an archaeological approach to this discursive field and by connecting knowledge production about communication technologies in the normative context of the Cold War with contemporary ethnographic ICT projects, he develops the concept of "modern linguistic ideology of communication" to question "the self-evidence of the human as a communicating being" (Axel 2006: 355). This linguistic ideology is limiting and constituting forms and functions of human communication. He finally calls for critical projects in anthropology to study the human as communicating subject by opening "traditional" ethnographic inquiries beyond the fetishized mode of face-to-face communication.

Digital anthropology

Today, digital media technologies are part and parcel of everyday social and cultural life. They have become ubiquitous. No wonder that anthropology, which relatively late joined the studies of digital

media, is becoming more and more active in conducting research projects, creating research networks and organizing workshops on digital practices. At the University College London, the World's first master program in digital anthropology has been implemented (http://www.ucl.ac.uk/anthro/digital-anthropology/index.html). In that program students not only learn about digital media and anthropology theory and methods, they are also trained in technical skills of programming, web development or digital photography.

The media technology that stands synonymously for the digital age is the internet. The first attempt to conduct an "holistic ethnographic study" of the internet was made in 2000 by Daniel Miller and Don Slater in their pioneering book *The Internet: An Ethnographic Approach*. They analyzed "how members of a specific culture attempt to make themselves a(t) home in a transforming communicative environment" (Miller& Slater 2000: 1). The research took place in Trinidad where Miller and Slater (2000: 14) investigated how Trinidadians make use of "*their* internet" and its applications and services. They ethnographically analyzed the local consequences of a global phenomenon. In an ethnographic context, the internet can be understood as a phenomenon that rather comprises "different social relations" than as "a single 'object' with inherent properties" (Miller & Slater 2003: 52).

Miller and Slater (2000: 193) conclude that the internet in the Trinidadian case can be understood as material culture rather than technology, since technologies "have become forms of practice". In anthropology, material culture is closely connected to consumption and its sociocultural implications. The first step in consumption is the transformation of objects "from being impersonal commodities into things with distinctive meanings for the consumer and distinct places in consumers' lives"(Carrier 1999: 128-129). And this was precisely what, according to Miller and Slater (2000), happened with internet technologies in Trinidad.

Even though Axel (2006: 365-366), for example, finds Miller's and Slater's (2000) commitment to ethnographic holism and "traditional" ethnography exceptional and rather extreme, he admits that their text pushes "the limits of the normativity of a certain discursive formulation that conditions ethnographic approaches to the study of new technologies of communication".

10 years later Miller (2010, 2011) returned to Trinidad to investigate another booming digital media phenomenon and its consequences for people: Facebook (http://www.facebook.com/). With currently more than 700 Million users, Facebook is the World's largest and most dominant social

networking site (http://www.internetworldstats.com/facebook.htm). People on Facebook create profiles for and of themselves, they share stories, pictures, they network, they create and join groups of common interest, they support ideas and activities, and they simply communicate via chat and text messages.

Through his ethnographic case study and an "extreme reading" of Facebook, Miller (2010, 2011) developed an anthropological theory of Facebook. Just like with his first ethnographic study about the internet, he concentrates on the local interpretation of this phenomenon, which means that "Facebook" in Trinidad becomes "Fasbook". This also reflects the local idea that Facebook is in fact a Trinidadian invention, "rather than an imported facility" (Miller 2011: 159).

Miller (2010, 2011) in his Facebook anthropology finds that: Facebook is only an aggregate of regional usage and practices, cultural difference and diversity therefore becomes crucial. Facebook provides means to complement offline communities, this has particular effects within diaspora populations. Facebook is a crucial medium for visibility and public witnessing, not for all people and not necessarily. Facebook internationalize local events and thus shrinks social worlds. And finally, Facebook and the practices related to it brings a shift from sociology to anthropology in respect of understanding specific issues in contemporary society, since only anthropology can provide answers to some questions posed by this social network. And that is according to Miller (2011) exactly what Facebook is: a social network that is able to reconstruct relationships particularly among families and friends. Questions about kinship and close social relations are emerging here and should be answered by anthropology and further ethnographic research.

In a recent review of ethnographic studies on digital media, Gabriella Coleman (2010: 2) divides the corpus of studies into three categories:

(1) the relationship between digital media and the cultural politics of media, studies about sociocultural identity construction and forms of representation;
(2) inquiries into the "vernacular" cultures of digital media, for example the free software movement and digital activism;
(3) studies about the "prosaics" of digital media, how they are related to other social practices of piracy, journalism or religion.

She concludes that "despite the massive amount of data and new forms of visibility shored up by computational media, many of these worlds remain veiled, cloaked, and difficult to decipher"

(Coleman 2010: 12). Long-term ethnographic fieldwork is therefore necessary and well suited to unveil practices of everyday digital media life. The next section briefly introduces such a long-term ethnographic project and some of its main aspects.

Connecting First Nations in northwestern Ontario, Canada – A case study

The case study I am going to discuss very briefly is part of a project that basically deals with media technology practices in the sociocultural and geographic contexts of northwestern Ontario, Canada. (Bell et al. 2012, Budka 2009, Budka et al. 2009). Only about 45,000 people live in this region of the size of France. The majority are members of Ojibwa, Oji-Cree and Cree speaking First Nations, residing mainly in remote fly-in communities.

In 1994 the Kuhkenah Network (K-Net, http://www.knet.ca/), a tribal council initiative, started to connect people in this remote region through digital communication technologies. At first with an online learning bulletin board system that allowed students, who had to leave their home communities to attend high school, to get in contact with other schools and students. At that time the telecommunication infrastructure in the settlements was completely lacking computer networks and sometimes even phones (Budka et al. 2009). But there have been local and regional radio networks and newspapers, established since the 1970s mainly by the regional native communication society Wawatay (Budka 2009).

In the years to come, K-Net was able to secure more and more funding to build the technical infrastructure and to create the support for broadband internet and cell phone communication. The network also established several programs and services that have become widely popular, not only among tribal council members, but also among many other First Nation people within northwestern Ontario and beyond (e.g. Beaton et al. 2009).

One of those service is MyKnet.org (http://myknet.org/) which was established in 2000 and provides free webspace for homepages and e-mail addresses, particularly for the youth of the region's First Nation communities. Currently, there are about 20,000 active MyKnet.org user accounts. Many of those personal homepages refer directly to the daily life of people in a world at the margins, where roads come to an end at the settlement's border and where friends and families are split up to attend school or to find work in the urban south. Thus, these homepages can be considered as local representations of Aboriginal cultures, lives and identities within the global

technology of the world wide web.

Almost half of the user population is between 15 and 25 years of age. And the main reason to use MyKnet.org is to keep in touch with family and friends who live all across the region, the province and the country. Similar to Miller's experience with Fasbook in Trinidad, people in northwestern Ontario considers MyKnet.org to be “the internet”. They make their first online experiences within MyKnet.org; they randomly open a browser and find MyKnet.org; they learn to put text and pictures online through MyKnet.org; they even learn to code basic HTML with MyKnet.org; “MyKnet.org is their internet.” (interview quote 2007).

This online environment supports the connecting, reconnecting and networking of family and friends by bridging temporal and spatial distance to chat, discuss, share stories, music, and pictures. Since all homepage users have to register with their real and full name, it is easy for friends and relatives to locate someone's presence within MyKnet.org. It also supports informal learning and sharing practices. Homepage producers learn from each other how to set up simple homepages, upload and edit pictures, and write diary/blog-like texts and comments. MyKnet.org and its related practices are discussed at school, at home and at the workplace, making it thus a total sociotechnical phenomenon (cf. Pfaffenberger 1988).

MyKnet.org is of course not the only online social networking environment accessible on the web. Already in 2007 many people indicated that they also had a homepage with other, commercially oriented, website providers. In particular, social networking sites, such as Facebook and Bebo (http://www.bebo.com/), have become very popular within First Nation communities. Results of an recent online survey indicate that meanwhile most MyKnet.org users also have a Facebook profile using it pretty much in the same way they use MyKnet.org: to keep in touch with family and friends.

Despite this potent rival, people keep their MyKnet.org homepages to stay in touch and to access and exchange information about people and communities by browsing through this online environment. One of the reasons why they stick to it is certainly because MyKnet.org is a dedicated First Nation service. Another reason is the simple fact that MyKnet.org allows it users to design, edit and change their homepages as they wish.

Control and ownership of media technologies is certainly limited in respect to the funding of these

technologies. K-Net has been dependent on non-indigenous funders such as governmental institutions and organizations. So the organization is constantly investing, very successfully, a lot of manpower and money in applying for regional and federal project funds. Following thus also the moral, social and economic “imperative to connect” in the age of the “network society” (Green et al. 2005: 817).

Anthropology of the contemporary

Whereas the anthropology of cyberculture is related to science and technology studies and the US branch of anthropology, digital anthropology, at the moment, has closer ties to British anthropology and material culture studies. The third anthropological project that I am going to discuss in this paper not only deals with media technologies or forms of socialities but with “the contemporary” as such. The following remarks relate to a discussion between Paul Rabinow and George Marcus with contributions by James Faubion and Tobias Rees (2008) about the designs for an “anthropology of the contemporary”.

The “anthropology of the contemporary” aims to identify, trace and name changes to the present, which is understood in this context as a historical, open moment (Rabinow & Marcus 2008). The discipline of anthropology, its current situation, standards and quality in teaching, learning and research are of particular interest here. The goal of this project is to develop conceptual tools or designs for an anthropology of the contemporary.

In tracing the history of the contemporary in anthropology, the Public Culture project has to be mentioned. That project which developed around people like Arjun Appadurai and Carol Breckenridge in the mid 1980s at the University of Chicago, focused on different phenomena following Habermas' conception of the public sphere. Mass media, advertisements and social movements have been among the research topics. Thus, the project contributed decisively to the social and cultural anthropology of globalization (e.g. Appadurai 1998).

An anthropology of the contemporary is not an anthropology of “the modern” (Rabinow & Marcus 2008). “The contemporary is not especially concerned with “the new” or with distinguishing itself from tradition. Rather, it's practitioners draw attention to the distinction modern/contemporary as the clustered elements and configurations of the modern are observed in the process of declustering and reconfiguration. The “contemporary” indicates a mode of historicity whose scale is relatively

modest and whose scope is relatively short in range." (Rabinow & Marcus 2008: 58)

This means that the anthropologist of the contemporary, on the one hand, has to be close to things when they happen, but, on the other hand, has to preserve a certain untimeliness. That's were a crucial difference with journalism emerges. To analyze the emergent in anthropology, it also needs new concepts and ideas in terms of fieldwork and ethnography. Multi-sited ethnography, as formulated by Marcus (1998), is one way to analyze and understand for example flows of people or ideas on constantly changing levels of space and time. Holism as one of ethnography's early key features in the study of "cultures", is, and always has been, a research imaginary (cf. Marcus 1998). "What is actualized or emergent has nothing to do with whatever totality, but with the combination of different elements, hence with an assemblage, that creates new conjunctures that lead to new or at least different dynamics." (Rabinow & Marcus 2008: 79)

Methods and concepts that are able to grasp the emergent should be developed and evaluated in what Rabinow and Marcus (2008) call "design studios". There, anthropologists should critically think beyond traditional ideas and established conceptions to cooperatively develop for instance "alternative ideas about methods" (Rabinow & Marcus 2008: 84). This does not mean to reinvent ethnography or fieldwork, but to critically rethink some of its elements.

Besides the category of the emergent, an anthropology of the contemporary has to consider, following Raymond Williams, two other categories: the residual and the dominant and their relationship. Together they constitute "the present as dynamic phenomenon" and are hence crucial for ethnographic fieldwork (Rabinow & Marcus 2008: 94). Those three categories that "structure a set of complex temporalities" can be attached to different disciplines: cultural studies is interested in the emergent, political science in the dominant, and anthropology in the residual (Rabinow & Marcus 2008: 103). An anthropology of the contemporary should not forget about all three of them. If it is able to combine all three through ethnographic fieldwork, remains to be tested and discussed in the design studios.

First attempts to establish such design studios, where an anthropology of the contemporary can be further developed, have been made with the Center for Ethnography (http://www.ethnography.uci.edu/) at Irvine, California, and the Anthropological Research on the Contemporary Collaboratory (http://anthropos-lab.net/) at Berkeley. It would be great to see such joint research endeavours also in Europe.

Conclusion

In this paper I have tried to identify and briefly discuss some similarities and specifics of cyber and digital anthropology, from key research topics and concepts to methods, historical roots and interdisciplinary connections. Social relations, their characteristics, development and change, are one of those common research interests; from cybernetics, cyberanthropology and the anthropology of sociotechnical systems to digital anthropology and the study of online social environments and networks such as Facebook and MyKnet.org. Anthropology has the possibilities and the mandate to continue its investigations of complex sociocultural phenomena, particularly in an age of complex technological systems.

With the anthropology of the contemporary, the last part introduced a project that provides a kind of umbrella for ethnographic work that deals with questions about the emergent in a global society and in an inevitable inter- and transdisciplinary way. In doing so, it also has to consider a set of further temporalities, making it thus not an ahistorical project. The question if it is actually necessary to construct branches of anthropology that deal with contemporary sociocultural developments and processes, such as the spreading of digital communication technologies, remains open for discussion. So do questions about the hierarchization of complexity (e.g. Escobar 1994, Ingold 2000, Pfaffenberger 1988, 1992), context (e.g. Bateson 1972, Miller & Slater 2003) and modernity (e.g. Appadurai 1998, Rabinow & Marcus 2008). As well as the relationship between anthropology and ethnography, particularly in times of increasing interdisciplinary research.

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