

Automate Humans or Humanize Automation? The “Atque” Design and Communication System to Redefine the Relationship Between Knowledge and Know-How

İnsanları Otomatikleştirmek ya da Otomasyonu İnsanlaştırmak? Bilgi ve Uygulama
Arasındaki İlişkiyi Yeniden Tanımlamak İçin ‘Atque’ Tasarım ve İletişim Sistemi

Eugenio PANDOLFINI* 
Viola DAVINI** 
Marta GUARDUCCI*** 
Marco SBARDELLA**** 
Luca TOSCHI***** 

Abstract

This paper introduces the research conducted by the “scientia Atque usus” Research Center for Generative Communication ETS (from now on: sAu Research Center) dealing with the relationship between new technologies and the enhancement of human creativity. sAu Research Center has been working on the impact of automation in social and creative processes and the research group has conceived and developed the “Atque” *Design and Communication System*: A suite of functional tools for carrying out activities of research, analysis, design, development, documentation, monitoring, communication and training. It is a system which is constantly transforming itself: it is based on the people who are using it and on the projects

- * Founding member and Researcher, “scientia Atque usus” Research Center for Generative Communication ETS, Florence, Italy. E-mail: eugenio.pandolfini@sau-centroricerche.org, ORCID: 0000-0001-7632-5985
- ** Founding member and Researcher, “scientia Atque usus” Research Center for Generative Communication ETS, Florence, Italy. E-mail: viola.davini@sau-centroricerche.org, ORCID: 0000-0002-4873-2353
- *** Founding member and Researcher, “scientia Atque usus” Research Center for Generative Communication ETS, Florence, Italy. E-mail: marta.guarducci@sau-centroricerche.org, ORCID: 0009-0003-9964-0293
- **** Founding member and Researcher, “scientia Atque usus” Research Center for Generative Communication ETS, Florence, Italy. E-mail: marco.sbardella@sau-centroricerche.org, ORCID: 0000-0002-7307-6829
- ***** Founding member and President, “scientia Atque usus” Research Center for Generative Communication ETS, Florence, Italy. E-mail: direzione@sau-centroricerche.org, ORCID: 0000-0003-0064-0836

Makale Geçmişi / Article History

Gönderim / Received: 15.09.2023
Düzeltilme / Revised: 09.02.2024
Kabul / Accepted: 13.02.2024

that have to be realized, so it changes as a living system. It is for this reason that the main characteristic is to be human-centered-design, it enhances human creativity and it fosters the collaboration among people who cooperate in a common project.

Keywords: Artificial Intelligence, Generative Communication, Collaborative Working Environment, Automation, Human Creativity

Öz

Bu makale, insan yaratıcılığının geliştirilmesi ve yeni teknolojiler arasındaki ilişkiyi ele alan “scientia Atque usus” Araştırma Merkezi’nin (sAu Araştırma Merkezi) yürüttüğü araştırmayı tanıtmaktadır. sAu Araştırma Merkezi, otomasyonun sosyal ve yaratıcı süreçler üzerindeki etkileri üzerine çalışmaktadır ve araştırma grubu, “Atque” Tasarım ve İletişim Sistemi’ni kavramış ve geliştirmiştir. Bu sistem araştırma, analiz, tasarım, geliştirme, belgeleme, izleme, iletişim ve eğitim faaliyetlerini gerçekleştirmek için işlevsel araçların bir paketi olarak tanımlanabilmektedir. Sürekli dönüşen bir sistem olan atque, kullanan insanlar ve gerçekleştirilmesi gereken projelere dayanır, bu nedenle canlı bir sistem olarak değişmektedir. Bu nedenle projenin ana özelliği insan odaklı tasarım olmasıdır; insan yaratıcılığını artırır ve ortak bir projede işbirliği yapan insanlar arasındaki işbirliğini teşvik eder.

Anahtar Kelimeler: Yapay Zeka, Üretken İletişim, İşbirliğine Dayalı Çalışma Ortamı, Otomasyon, İnsan Yaratıcılığı

Introduction

Digital automation’s current framework leads to fragmented human labor and a dominance by power elites over human intellect, defined as the ability to connect disparate elements systemically (Toschi, 2019). To counter this, sAu Research Center initiated the “Atque” *Design and Communication System* to support complex project management without curtailing creativity or the right to err and explore potentially fruitful paths.

“Atque” targets three goals:

1. integrating daily operational activities (*usus*) into scientific research (*scientia*), actively involving stakeholders in a typically overlooked domain.
2. reconceptualizing the interaction between knowledge and its application, fostering a participative role in the knowledge society (Unesco, 2005), necessitating new communication approaches, termed the Generative Communication Paradigm (Toschi, 2011).
3. enhancing transdisciplinary collaboration among various field experts.

“Atque” is demonstrated in a national initiative started in June 2021 with the National Association of Oil Cities, encompassing 450 Italian municipalities and entities across agriculture, environment, and health sectors. The Association unites communities with olive oil production, committing to cultural promotion, environmental protection, and the dissemination of olive-growing heritage (Toschi et al., 2021).

The project aims to forge a community that valorizes the multifaceted significance of olive cultivation. It involves stakeholders in redefining the worth of extra virgin olive oil beyond economics,

fostering a structured community for communication initiatives to reinforce the value of olive oil and its cultural ecosystem.

Methodology: “Atque” Design and Communication System and Its Added Value

All the theoretical reflections and the prototype design and development activities carried out by the sAu Research Center have converged in the conception, design and creation of “Atque”, intended as a real driving force for new communicative behavior and as a place of experimentation of different organizational methods for the communication of the future.

“Atque” is a *suite* of digital tools that the sAu Research Center makes available to project partners to carry out activities ranging from research to design, from analysis to documentation, from monitoring to training and communication of results. These are strictly interactive tools, accessible from any online platform, which offer to all those organizations wishing to start joint projects the possibility of:

- build and consolidate cohesive communities of projects and interests around specific products or services,
- strengthen the communication of products and services through the values of which they are an expression,
- promote and enhance the creativity of individuals in a logic of cooperation.

All the tools of “Atque” share a single and important belief at the basis of their development: the centrality of human creativity, which means supporting people and organizations in all phases of design, guaranteeing them the possibility of acquiring new knowledge and skills, documenting the salient aspects of their cultural heritage and values and, finally, strengthening their products and/or services on the basis of shared values (Chamorro-Premuzic, 2023; Gigerenzer, 2022).

The characteristic of “Atque” that, more than others, strengthens and promotes human creativity in research projects is directly linked to the idea of writing: “Atque” and its tools are instruments of individual and collective writing.

The use of writing that is experimented with “Atque” goes in the direction of overcoming the concept of knowledge transfer, to embrace a perspective of co-planning between *scientia* and *usus*: on the one hand, writing takes on the connotations of a device that structures and organizes the thought; on the other, the act of writing designs the system itself, it reinvents it, stimulating the creativity and the sharing of knowledge among all those involved in the project activities. Through “Atque”’s tools, researchers write in order to imagine new contents, to build a reality totally different from the existing one, storing their ideas on an external support to be able to share them with all stakeholders. Moreover, it is an idea of writing that – from individual – becomes collective, as a reflective tool that facilitates dialogue and confrontation among all participants (Ong, 1982).

As instruments of collective writing, the use of “Atque” and its tools produces contents, as result of the research and of the community building process. As expected by the Generative Communication

Paradigm, contents themselves are reused for other communication and community building activities, through a strategy of content publishing that is specific for each project.

To maximize the impact of content publishing activities, the Center has developed *sAu Quaderni*, the online magazine of the sAu Research Center, that publishes in-depth articles, interviews and other functional contributions to involve specific targets or individual people in the project activities. All these contacts are identified on the basis of the community building activities carried out through *sAu Matrix* or the shared knowledge generated thanks to the use of the *sAu Library*.

The "Atque" Design and Communication System is made up of four main tools:

- *sAu Officine*,
- *sAu Matrix*,
- *sAu Library*,
- *sAu Academy*.

sAu Officine are the place where the community of the sAu Research Center – project partners, stakeholders, institutions, organizations, associations, businesses, citizens – carries out planning, development, management and monitoring activities of the projects that take advantage of the Generative Communication Paradigm.

The involvement of citizens (world of *usus*) in scientific research (world of *scientia*) is a strategic point for the future development of innovation, as recalled by the ECSA (European Citizen Science Association) in writing the 10 principles of Citizen Science (ECSA, 2019). It is not simply a question of involving citizens with the aim of increasing trust in science, but of identifying and analyzing the real needs for innovation that arise from society. Only by aggregating and creating the conditions for effective collaboration between the scientific world and the various local stakeholders is it possible to encourage an active role of citizens and involve them in scientific efforts that generate knowledge.

From this perspective, *sAu Officine* are designed to overcome the current tendency to consider stakeholders as passive subjects, final recipients of products or services. On the contrary, this tool brings *usus* into *scientia*, valuing the contribution of each subject and recognizing it in the results and publications of the projects.

This asynchronous work and collaboration environment provides differentiated access for the various categories of stakeholders taking part in the project. Each of them, by accessing via a private password, displays and interacts with the different sections provided by the system (for example: the project roadmap, with indications of the actions to be carried out and the timing, the contact directory and the work documents).

In the creation and management of the project community, sAu Research Center supported *sAu Officine* with *sAu Matrix* tool (Pandolfini et al., 2019), with the aim of collecting, archiving and organizing relationships and contacts. *sAu Matrix* allows each researcher to enter and update the personal data of each individual and collective subject, integrating them with information relating to ongoing activities, contact history and project knowledge, as well as relationships that could be activated.

“*Atque*”, ultimately, is designed to communicate the results achieved by the project through a precise content publication strategy that constitutes a body of knowledge useful both to the internal community of the project and to all external ones involved in the same issues. In this way, the System promotes an idea of communication that transforms knowledge coming from both *scientia* and *usus* worlds in a common good to be shared, with the aim of encouraging innovation. According to an idea of knowledge which arises from precise contexts of application and which contains within itself the results of collaboration and cooperation between socio-cultural and economic fields that – until now – have been kept strictly distinct and hierarchised (Bateson, 1972).

The idea of rethinking knowledge as a common good has inspired another tool of “*Atque*”: the *sAu Library*, a relational database that allows you to organize the resources and knowledge generated by the project. The *sAu Library* strengthens transparency and internal operations, promoting awareness and autonomy and guaranteeing project partners to:

- document the design activities shared between stakeholders,
- manage the contents that emerge from the projects in terms of maximum publicity or total confidentiality,
- systematize the data collected to enhance them as elements of knowledge functional to their application in different contexts, according to a logic of sharing and building community knowledge.

We are living in years in which our entire business is becoming digitalized and we tend to rely on automation for choices that should be made by us, as human beings (Engelbart, 1962). We entrust our memory to machines and give them the possibility of rediscovering our every thought. But archiving is an operation that involves the choice to give the experience a clear project, to humanize and enhance the knowledge archived over the years according to a vision necessarily oriented towards planning and the generation of new ideas (Toschi, 2015a; 2015b).

In this perspective, through the use of the *sAu Library*, the *sAu Research Center* rethinks the relationship between knowledge and know-how, going to the heart of the very concept of experimentation, with the idea of not separating the knowledge of its application into concrete contexts.

To train partners and stakeholders in the concrete and daily use of the contents that emerge from the project activities, the *sAu Research Center* has conceived and designed the *sAu Academy*: it is a training environment which, in close synergy with the other tools of “*Atque*”, offers activities to meet the specific needs of the project community. *sAu Academy*, in fact, is centered on a mutually generative relationship between knowledge (*sAu Library*) and the applied, operational dimension of projects (*sAu Officine* and *sAu Matrix*).

The training courses offered through the *sAu Academy* are strongly object-oriented, intended for staff of organizations, institutions, foundations, associations, companies involved in activities that require specific knowledge and skills. The activities conducted in the *sAu Academy* also include the acquisition of skills on “*Atque*” itself and on the Generative Communication Paradigm, with the

aim of guaranteeing each stakeholder an active role within the project and always promoting a digital technology that enhances human creativity.

The subjects trained through the *sAu Academy* develop design techniques that lead to intervening on the detail at a system level to address complexity as an immense resource of our time (Morin, 1990; Marchionne et al., 2020; Marchionne et al., 2021). Moreover, the *sAu Research Center* conducts transdisciplinary projects, which necessarily require the convergence of multiple disciplines and the participation of multiple actors. Educating in communicative behaviors that give strength to transdisciplinary perspectives is also part of the training activities envisaged by the *sAu Academy*, often conducted by scientists, researchers and experts belonging to different disciplinary sectors.

sAu Research Center is convinced that the future of communication must be concretely oriented towards the adoption of technological-organizational solutions that promote a culture of planning with creativity, critical sense, knowledge needs, the necessity of spaces, times and working methods necessarily different from those of today. Only in this way our communication model can be truly “generative” and finally be able to dismantle the processes of mechanization of work that have characterized the last two centuries.

Discussion: The “Nuovo Evo” Project: Testing an Application of The “Atque” Design and Communication System

To exemplify and clarify the characteristics and functioning of “*Atque*” discussed in the previous paragraphs, a case study deriving from its application is briefly presented. The “*Nuovo EVO. The value of olive groves for the sustainable development of territories*” takes place in collaboration with the National Association of Oil Cities, which represents over 450 municipalities present in 19 of the 20 Italian regions. It was created to respond to the long-term crisis of the Italian olive oil sector, involving stakeholders of various kinds – farms, oil mills, restaurants, accommodation facilities, museums, associations, tour operators – in a process of redefining the value of extra virgin olive oil. In this new perspective, the value of this product cannot be reduced – as if it were a commodity – to the market price whose fluctuations depend on the international balance between supply and demand. This is because olive oil is much more than a commodity. It is an aggregate of symbolic and material values that range across an extremely wide range of areas of intervention: from the protection of environment to the protection of the landscape, from health and nutrition (oil is the basis of the Mediterranean Diet, recognized as an Intangible Cultural Heritage of Humanity by UNESCO) to social agriculture and the recent development of oil tourism.

To achieve this objective, a collective brand of the oil communities was designed and implemented. The purpose of the brand is to activate, within the Oil Cities, community building processes aimed at putting oil at the center of local development processes and involving citizens and stakeholders (producers, restaurateurs, tourist operators or other figures which revolve around olive growing and the oil supply chain) in redefining the values of this important product.

This strategy aims, on the one hand, to make oil a sort of “quality certification system” of products and lifestyles; on the other, to build communities of citizens (the “Oil Communities”) that find in

the Oil Cities (and in the process of redefining the values of oil an identity) a reference to initiate/participate in projects that recognize oil and olive growing as a strategic sector, capable of generating value (not only economic) for the territories.

The Final Product of the project therefore consists in the creation of a community of stakeholders (a community of public bodies, institutions, citizens, producers, restaurateurs, etc.) who daily work to enhance and communicate oil and olive growing as a heritage capable of generating value for the territories.

Moreover, working with “*Atque*” in collaboration with the National Association of Oil Cities staff, sAu Research Center will help to improve the internal communication skills and knowledge of the Association’s staff in order to manage the community itself through the brand. This new organizational and communication structure will be made operational through a configuration of “*Atque*” and its tools developed within the project.

Specifically, the following tools were created:

- *sAu Officine* – the asynchronous work and collaboration environment – with differentiated access for the various categories of users who took part in the project (Members of the Scientific Technical Committee, working group of the National Association of Oil Cities, representatives of the Association’s member municipalities, other stakeholders),
- a version of *sAu Matrix*, management software for the construction and management of oil communities,
- *sAu Library* – the project-oriented archive system – to document the activities carried out and the reference knowledge,
- *sAu Academy*, to create *object-oriented* training moments for both the Association’s employees and the stakeholders involved in the various phases of the project.

The project’s *sAu Officine* is designed to ensure that all people involved in the project with various roles can always have an updated picture of the progress of the project, know exactly what type of contribution is expected from them via a system of task management, have access to useful documentation through access to the *sAu Library* and have access to meetings thanks to a personalized agenda. For those subjects who were asked to express detailed opinions, for example, sAu Research Center used the *sAu Officine* to distribute online questionnaires, to write research reports (that were stored in the *sAu Library*) and to discuss them with stakeholders.

Through *sAu Matrix*, the sAu Research Center is supporting the National Association of Oil Cities to identify and give shape to territorial communities of stakeholders. Through this tool it is possible to identify potential members of the brand and to document previous joint activities, as well as constantly keep the status of the contact updated.

The *sAu Library* is used by the researchers of the sAu Research Center, by the staff of the National Association of Oil Cities and by the members of the Technical Scientific Committee of the project to share resources of various kinds, but above all the reading that each subject has made of these

resources, which include books, scientific articles, reports, online resources and projects. In this way, a common base of fundamental knowledge is progressively built and consolidated so that everyone can make a contribution based on their own specialization but contextualized in everyone’s common effort to argue the impossibility of reducing the value of oil at its selling price.

The fourth element of the suite is the *sAu Academy*, thanks to which it is possible to train different categories of subjects involved in the project both synchronously and asynchronously. If for the Association’s staff the *sAu Academy* focuses mainly on the use of the “*Atque*” *Design and Communication System* to innovate and make organizational behavior more creative, for the Association’s members and stakeholders the focus of the training regards the ability to conceive and implement territorial development projects based, on the one hand, on the centrality of oil and, on the other, on the aggregation of the largest number of stakeholders.

Even though it is not part of “*Atque*”, the contribution given to the project by the *sAu Quaderni*, the online magazine of the sAu Research Center, deserves a final mention. In that context, in fact, in-depth articles, interviews and book reviews are being published to involve stakeholders in project activities.

Conclusions

In this article we have tried to illustrate the specific characteristics of “*Atque*”, trying to clarify its dual nature, namely that of:

- complex constantly updated communicative object that we make available to the partners of the sAu Research Center for the numerous active research projects (the one presented is one of many),
- continually evolving research project on the relationship between new automation technologies and human creativity.

It seems that the future of communication, and more generally of our complex societies, is increasingly conditioned by the outcome of the ongoing challenge between two epochal trends:

- the one (now successful) that pushes towards the automation of man,
- the one (currently at a disadvantage) that aims to humanize technology.

The challenge is open, the ending not yet determined. It is neither possible nor desirable to slow down the evolution of technologies that are automating more and more aspects of our public and private, individual and collective lives. However, we can still decide the direction to give to this evolution, working both in terms of design and use. It is not – and should not be – a task entrusted exclusively to engineers and software/hardware developers. On the contrary, it should be a collective task, which concerns scholars of technical, scientific and humanities disciplines, and which must involve users and citizens at any stage of the process (according to a truly complete meaning of citizen science).

In this context, “*Atque*” aims to encourage a way of working (and, therefore, necessarily also of thinking, acting, collaborating) in which automation is at the service of human creativity, and not the other way around.

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