

The Case for Interfaces in International Relations

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This article aims at expanding current debates on technology in international relations (IR) by pointing toward an underexplored actor: the interface. The interface is a zone of contact, experience, and communication between users and computer technology. Although part of many engagements with world politics—e.g., security software and market analytics dashboards—interfaces remain underexplored in the discipline. This work first introduces what are interfaces and then presents two ways in which they matter for the discipline of IR by using the Frontex Joint Operations Reporting Application as an example. First, interfaces are a relevant—although not yet systemically analyzed—place to explore how politics is performed and staged, since their fluidity allows for different engagements with political matters and leads to multifaceted political formations. Second, interfaces introduce a distinct topology of governance. One of neither centralization *nor* decentralization—as pointed out by recent debates on political governance—but rather centralization *and* decentralization. In the conclusion, I introduce questions and concerns that could move the research of interfaces in IR forward.

Cet article vise l'élargissement des débats actuels sur la technologie en relations internationales (RI) en indiquant un acteur sous-analysé : l'interface. L'interface est une zone de contact, d'expérience et de communication entre les utilisateurs et la technologie informatique. Bien qu'elles occupent de nombreux rôles en politique mondiale (comme dans les logiciels de sécurité ou les tableaux de bord d'analyses de marché), les interfaces restent sous-étudiées dans la discipline. Ce travail de recherche commence par définir les interfaces, avant de présenter deux rôles importants qu'elles jouent dans la discipline des RI en utilisant l'application de notification des opérations conjointes de Frontex (Frontex Joint Operation Reporting Application ou JORA) comme exemple. D'abord, bien qu'elles ne fassent pas l'objet d'une analyse systématique, les interfaces constituent un lieu pertinent quand on s'intéresse aux politiques menées et présentées, car leur fluidité permet de prendre part de différentes façons aux problématiques politiques et aboutit à des formations politiques aux multiples facettes. Ensuite, les interfaces introduisent une topologie distincte de gouvernance. Comme des débats récents en gouvernance politique l'ont souligné, il ne s'agit pas de centralisation ou de décentralisation, mais plutôt de centralisation et de décentralisation. En conclusion, je soumetts des questions et inquiétudes qui pourraient faire avancer la recherche sur les interfaces en RI.

Este artículo tiene como objetivo ampliar los debates actuales en materia de tecnología dentro de las Relaciones Internacionales (RRII) poniendo el foco en un actor que ha sido poco estudiado: la interfaz. La interfaz es una zona de contacto, experiencia y comunicación entre los usuarios y la tecnología informática. A pesar de que forman parte de muchos de los compromisos con la política mundial (como, por ejemplo, software de seguridad y paneles de análisis de mercado), las interfaces siguen siendo poco estudiadas dentro la disciplina. Este trabajo presenta, en primer lugar, lo que son las interfaces y, a continuación, presenta dos de las formas en las que estas son importantes para la disciplina de las RRII, utilizando la Aplicación de Informes de Operaciones Conjuntas (JORA, por sus siglas en inglés) de Frontex como ejemplo. En primer lugar, las interfaces representan un lugar relevante, aunque aún no sea analizado sistémicamente, para estudiar cómo se realiza y cómo se escenifica la política, ya que su fluidez permite un compromiso diferente con los asuntos políticos y conduce a formaciones políticas multifacéticas. En segundo lugar, las interfaces introducen una topología distinta de gobernanza que no conlleva o bien centralización o bien descentralización (como han señalado los recientes debates sobre gobernanza política) sino que más bien implica centralización y descentralización. En la conclusión, presentamos varias preguntas y preocupaciones que podrían hacer avanzar la investigación en materia de interfaces en el campo de las RRII.

Introduction

As a discipline, international relations (IR) has a long history with technology and its political engagements (Hojtink and Leese 2019). Contributions encompass the analysis of the Cold War tech until current discussions around algorithmic governance and the role of social media in global politics. These last two elements are part of a movement that started in IR in the last two decades. Influenced by science and technology studies and actor-network theory, a part of the IR scholarship started to explore and focus on the political materialities part of the discipline (Acuto 2014). This discussion is well captured in Mark Salter's edited volumes on how material elements such as benches, cables, and manuals are responsible for creating, solving, and reorganizing certain political configurations (Salter 2015, 2016). Talking specifically about technology, this movement can be per-

ceived in a shift from discussions around what technology represents to what is enacted, performed, stabilized, and enabled by it (Amicelle et al. 2015). This shift was followed by a focus on the different political interactions and actors participating in technological embodiments and performances. To name a few, Amoore and Raley showed how algorithms reorient security decisions (Amoore and Raley 2017), Grayson engaged with the politics of drones (Grayson 2016), and Anna Leander and Jonathan Austin discussed the international politics of design (Austin and Leander 2021). Nevertheless, IR and technology are not always in sync, and one is always missing out on the other. To make this dissonance fruitful, I want to bring an underexplored actor to the discipline's attention.

Inspired by the authors mentioned above, who focus on the agency and international politics of specific digital-material elements, I contribute with an analysis of the in-

terface. I add to an existing IR scholarship that stresses the political dynamics of digital technology and design by bridging the gap between what I call interface studies, human-computer interaction (HCI), and global politics. The interface is here understood as a zone of connection, experience, communication, and performance between humans and a digital system, enabling users to perform different tasks with computer technology, combining mathematical and technological predicaments with visual presentations (Fedorova 2020, 12). Beyond our computers, interfaces participate in many engagements with world politics. Interfaces are the interactive and operational parts of different security technologies; they are the lines, dots, bars, and colors that materialize international markets—e.g., the Bloomberg dashboard—and they mediate diplomatic relations through virtual meeting software (Eggeling and Adler-Nissen 2021). Although we are increasingly experiencing politics through interfaces, they remain underexplored in the discipline. This work fills this gap by showing how interfaces are situated devices designed in relation to political visions and imaginaries of control and power while being interactive, malleable, and adaptable. This concatenation forms a fertile ground for the emergence of unexpected and new political formations worthy of analysis by IR.

By asking why IR should engage with interfaces, this work draws from different scholarships and the case of the Frontex Joint Operations Reporting Application (JORA) to present two reasons for the discipline to start doing so. This work proceeds as follows. I begin with a general introduction to interfaces, as some readers may not be familiar with the discussions around them and explain how they are political. In the beginning of the second section, I discuss the connections between interfaces and global politics and the place occupied by interfaces in IR. Then, I proceed to present two reasons why we should start looking more closely into interfaces. First, interfaces are a relevant place to explore how global politics is staged and performed. Second, interfaces are implicated in a movement of centralizing and decentralizing governance. In the conclusion, I relate my claims to the general discussion of technology in IR and present a set of questions that can move this research agenda forward.

What Are Interfaces?

Figure 1 shows operators flying a drone from a ground control station (Kreps and Lushenko 2021). Their capacity to control and act from a distance is granted by the many interfaces shown on the screens. The interfaces provide a single visual unit for users to engage with computer technology and its multiple data layers, different and distant machines, and distinct networks (Andersen and Pold 2011; Kitchin, Maalsen, and McArdle 2016, 94). They render lines of code, protocols, cables, data packets, and other digital infrastructures into something interactable (Cramer and Fuller 2008). Interfaces establish an imaginary relation to the bits and pieces animating our computers by hiding what is happening inside the machine. They may come in different shapes and formats, like websites, mobile apps, or digital platforms, and they keep complex procedures out of our sight and provide us with desktop analogies, recycling bins, and other icons or buttons that summarize and materialize the work of different actors (Chun 2006; Ash et al. 2018). In concealing what is happening in the machines and providing us with metaphors Søren Pold and Christian Andersen argue that the interface operationalizes and instrumentalizes imaginaries and dreams of emancipation and total control

by the user. In doing so, the interface lures and seduces us (Andersen and Pold 2018a). Building on Wendy Chun and echoing Andersen and Pold, I argue that the interface works through feelings of mastery, transparency, control, and eagerness whilst resurging the sovereignty of the individual as a subject driven to know, to map, to zoom in and out, and to manipulate and act upon realities (Chun 2013; Andersen and Pold 2018a, 11). The authors here mentioned are from different backgrounds, such as design and information studies (Andersen and Pold 2011), new media studies (Cramer and Fuller 2008), political geography (Ash et al. 2018), and anthropology (Chun 2006), but together they form what I call interface studies. Between all of them, there is a shared curiosity of how interfaces slipped into our routines and got embedded in our lives and the consequences of this slippage in the mediations between humans and machines and culture and data (Andersen and Pold 2011).

This relational understanding of interfaces emerged as part of one of the many debates in HCI (Gunkel 2018). HCI exists as a field of inquiry that focuses on the design, methods, engagements, and interactions between computing technologies and the manifold aspects of human experiences (Filimowicz and Tzankova 2018). One way that HCI practitioners, academics, and researchers organize and historicize the movements and “waves” of such a dynamic and interdisciplinary field of study is through paradigmatic engagements. According to Harrison, Tatar, and Senger (2007), HCI first paradigm draws on engineering and human factors to try to optimize the fit between human and machine and increase human control over computers through ergonomics. The second paradigm draws on cognitive psychology and is centered around a presumed symmetry between human mind and computers as information processors, focusing on computers as “work” machines and, therefore, concerned with how information gets into the device, its processing, and how its outputs are transmitted to the human user. The third paradigm is marked by the extension of the computer from work settings to our homes. This process highlights machines’ context of use and their situatedness and invites us to think about the embodied interactions between people and machines and the meaning-making experiences surrounding human-machine engagements (Harrison, Tatar, and Sengers 2007). Bødker (2006) summarizes this path as a shift from a first human factors wave to a second moment focused on well-established communities of practices, like the workplace, which is then broadened by a third wave, consisting of a combination of private and professional life and an attentive look to the emotional and cultural aspects of how people relate to technology.

I would like to highlight that the segmentation of HCI into paradigms does not mean that all research projects fit neatly into these categories nor that one paradigm contradicts the other; there is always the possibility for cross-paradigm work or contributions that exist outside those limits (Duarte and Baranauskas 2016). In fact, and as argued by Frauenberg (2019, 2:2), HCI now is a “heterogeneous field, in terms of technology, application contexts, theoretical underpinnings, and methodological approaches, that grapples with the increasingly intimate entanglement of humans and digital technology in all aspects of life.” This process leads to a series of new concerns and research interests on how humans and non-humans are intimately connected in such a way that the focus of the scholarship is not on how we (humans) produce technologies that work for us, but rather on how humans and technologies are forming hybrid configurations and networks where different phenomena



Figure 1. Drone control station

emerge, publics are drawn, relations established, and limits enacted. Strands of intellectual thought like more-than-human-centered design (Coulton and Lindley 2019) and entanglement HCI (Frauenberger 2019) propose a way of thinking that revolves around the complex and layered overlaps between humans, non-humans, machines, and their interactions. This includes thinking beyond the usability paradigm and toward emergences and relationalities and beyond humans and toward more-than-human constellations (Coulton and Lindley 2019), and artifact ecologies (Bødker 2015).

Taking inspiration from this debate, I reinforce the connections between interfaces, IR, and world politics. The conversations on the agentic capacities of more-than-humans, machines, and their entanglements enable me to focus on the agency of interfaces in relation to their context of use and situatedness, be it at home, in a military setting as shown in Figure 1, or in an international organization. More than that, these conversations taking place in HCI introduce the point of the relationality and the emergences that take place in the encounter between humans, non-humans, and machines, which opens an avenue to explore the political reverberations of those moments and their consequences for the discipline of IR and global politics. By briefly introducing the discipline of HCI, I wanted to illustrate some of the debates shaping this field of study and how these discussions enabled me to try grasping the connections that bring interfaces and world politics closer to each other and the consequences of this movement.

A key part of this debate is Lucy Suchman's (2006) work. Borrowing Karen Barad's (1996) concept of intra-action, Suchman engages with the debate presented above and suggests a focus on human-computer intra-action as a way to

suggest that humans and machines are not pre-existing entities that interact with each other or dominate one another, but rather emerge and are constituted through their intra-actions. Suchman parts way with strands of HCI research that understand causality as a one-way process established between two distinctive and separated entities. She locates agency in the moments and engagements where humans, machines, and their boundaries are stabilized, dispersed, or trespassed (Suchman 2006). By emphasizing the entanglement and co-constitution of entities through intra-action, Suchman calls attention to the ways in which knowledge, power, and ethics are intertwined with the computational world. She offers a perspective that goes beyond the dualistic view of separate subjects and objects, highlighting the relational and dynamic nature of technology. With Suchman, I argue that the intra-action between humans and machines is the place of politics, and this politics is mediated by the interface. Interfaces are the place where an organization's techno-political visions and expectations are interwoven with data, users' and individuals' experiences, histories, and creativity, allowing for the emergence of alternatives and collateral political realities.

If we look at the Latin American feminist movements practices in both Twitter and Instagram, we can see how they try to gain more visibility by "hacking" these social media's interfaces through an engagement with hashtags both in favor and contrary to their political agendas. They creatively engaged with the interfaces' affordances, playing with these social media's original visions and mechanisms using anti-feminist hashtags to increase their reach in social media and amplify their voices online (Sued et al. 2022). Another example is the use of Facebook groups by the survivors and descendants of those who survived the Tel al-Zatar

refugee camp's destruction in 1976. They share pictures and tales of what happened in Tel al-Zatar and transform Facebook's groups' interface into an archive that reconstructs the memory and the events that took place in that space (Yaqub 2015). A similar process happens with video, audio, and thermostat interfaces in smart home devices. It was never the manufacturer's intention to enable violence and abuse, but violence perpetrators are increasingly manipulating such interfaces to control, stalk, and harass female victims, suddenly dropping temperatures to freezing numbers, raising the volume of digital assistants to annoying levels, or taking advantage of back-door entries to spy on victims (Lopez-Neira et al. 2019).

My point with these examples is to show how interfaces become a place where users, companies, and organizations get entangled and prompt new and unexpected political formations. In mediating this encounter, interfaces allow for a creative reappropriation of digital and technical infrastructures beyond the original intention of certain design choices or specific expectations of user's experience. In this sense, the interface becomes a zone of "flux, fluidity, and frictions of politics through the contingent, creative, and aesthetic praxis of making" (Austin and Leander 2021, 105). This is a way of breaking with assumptions about how interfaces can be designed in such a way as to achieve certain goals or how to shape the user's experience and move toward to what surfaces *with* and *in* the interactive space of the interface, such as hashtag-based feminist counterattacks, Facebook archives, or "smart" domestic violence.

A key point in this discussion is that the mediation work done by interfaces is anchored in visual elements like colorful data visualizations, graphs, grids, and maps, which bring to the fore the affective-aesthetic nature of interface engagements. Interfaces combine and organize these elements in such a way that the forms of knowledge and the information coming out of the interface are not truth claims, but rather effects of visibility (Chen 2020). This matters because visibility is political in a fundamental sense; it delineates what we—collectively—see and what we do not, and, consequently, how politics is "perceived, sensed, framed, articulated, carried out, and legitimized" (Bleiker 2018, 4). In this sense, the practices and politics of interfaces—incarnated in this entanglement of visuals, feelings, and sensations—are foregrounded by digital aesthetics. Aesthetics here in the sense of the Greek word *aisthesis*, as the perception from the senses (Fazi 2019). Interfaces go beyond quantified computer technology and open avenues for affective experiences. They establish forms of communication through "images, fictionalized associations, and metaphors, while also being an acutely sensory experience" (Fedorova 2020, 21).

The specificity of interfaces stems from their materialization as a double-bind. Pictures or movies have the capacity to translate events and render them into something self-contained. However, they are a stable way to present information and matters of concern, whereas interfaces allow users to change what is presented, explore and engage with visual elements, and ultimately act on what is seen. The double-bind exists as interfaces enroll visual elements to hide their complexities and to pre-structure the user experience, and the user, on the other hand, engages with the same visual elements to act on and with the interfaces. Interfaces are distinguished from other media by their interactive nature and their role as mediators between users and digital systems and/or data, allowing for an active engagement with content and the interaction with digital information. This sets interfaces apart from other types of media because they come into being as users engage with the same visual el-

ements designed to hide interfaces' machinations and script users' experiences (Hookway 2014).

In this entanglement of affects, visuals, and data, interfaces become political entities. Interfaces do not exist in a void. They are the effects of other actors and practices, and, consequently, they are connected to different forces (political, social, or economic) that engender them (Galloway 2012). Beyond the political process of seeing and limiting what and how to see, interfaces embed choices, conducts, languages, worldviews, aesthetics, and political promises into technical and digital infrastructures (Andersen and Pold 2018b). Political actors, such as States and International Organizations, have expectations, imaginaries, and desires associated with interfaces. They may expect better decision-making processes, a clearer view of certain territories, or a friendlier way to navigate data. As such, interfaces do two things for us. They become entry points to investigate how political actors understand particular technological materialities and what kind of expectations and hope they deposit on them. Secondly, interfaces become a means through which we—as a society—can investigate and explore how technologies participate and become part of political processes. In the next section, I will explore three forms that interfaces change the way we think and do IR.

Interfaces in IR

Interfaces are not new in world politics, but their presence intensified and diversified in recent years. Some moments perceived as crucial for IR history existed in relation to interfaces. The Second World War, understood by authors like Charles Robertson (1997) as responsible for reshuffling world politics and introducing new dynamics in the discipline, relied on the use of technologies operated through interfaces, like radars and computers. In recent years, interfaces became more popular¹ and started to be part of different political arrangements, like in environmental governance (e.g., smart agriculture systems) and sustainable development (e.g., Tech4Development).

This means that there is room for a research agenda of interfaces in IR. For example, post-positivist methodologies, like feminism or constructivism, could explore the gendered aspects of interface engagements or the role of this technology for states' identities. More than that, the HCI waves can be read in relation to the great debates in IR. The first wave in HCI, which focused on improving technology, can be related to the realist debate in IR, which centered on the power and interests of states. The second wave, which emphasized the importance of user experience, can be connected to the constructivist debate in IR, which highlights the role of ideas and social construction in shaping IR. The third wave, which considers the context and environment of interaction, is similar to critical debates in IR focusing on embodied experiences, sensorial politics, and relationalities. This means that there is no shortage of connections between IR and interfaces, but what I intend to do in this section is to introduce two reasons for the discipline to start looking more actively to interfaces. First, they are an underexplored place to investigate different configurations and performances of politics. Secondly, interfaces are fostering a movement of centralization and decentralization of governance.

¹The reason behind the interface's increase in popularity is still contested. Some point toward the application of everything (Faisal 2014), including politics (Alevizou and Murchison 2022), while others point to the ubiquity and seamlessness of the personal computer and other mobile technologies (Chatellier et al. 2019).

IR on the Interface

The situatedness of interfaces allows for fluidity in the ways political realities are presented and engaged with, potentially challenging conventional readings and leading to alternative political arrangements. The idea behind this section is to briefly show how IR could benefit from engaging with interfaces by using the case of the European border management as an entry point to the wider discussion on interfaces, global politics, and IR. In this section, the focus will rely on Frontex—the European Border and Coast Guard Agency—and specifically on the Frontex JORA. The idea is to show how a focus on JORA as an interface opens new ways to explore Europe’s border regime, its practices, and its consequences. The JORA’s interface serves as an illustrative example of the potential unlocked when we attentively explore the role of interfaces in broader political dynamics.

Millions of individuals try to reach Europe seeking refuge from war and political persecution or just better life conditions. They view Europe as a place that can offer them protection and safety. In the process of reaching Europe, migrants must cross the European Union (EU) borders, manifested in partially connected places such as “the laptops of the border police; the visa records of the European embassies [. . .]; the check-points of Heathrow, Tegel, [. . .]; [and] the online entries of the Schengen Information System (SIS), the Eurodac, [. . .] where the fingerprints of asylum seekers and apprehended illegal migrants are stored” (Tsianos and Karakayali 2010, 374). However, EU border control is not only exercised on the places mentioned above. External and sea borders are also subject of border technologies and enforcement. More than that, even the migrant’s bodies become places of border enforcement and bordering practices (Vukov 2016).

Combined, these elements structure the EU’s border regime. The concept of border regime encompasses the production of the border from and with the perspective of migration, being the border traversed by “no single, unitarian organizing logic at work. Instead, the border constitutes a site of constant encounter, tension, conflict, and contestation. In this view, migration is a co-constituent of the border as a site of conflict and as a political space” (Casas-Cortes et al. 2015, 69). Inspired by Casas-Cortes et al. (2015), I understand the EU’s border regime as a space of negotiation between the migrants’ forces, movements, and liveliness that cut through and reshape borders and the various state agencies and policy articulations that try to contain and stabilize the border as an element of exclusion. Two elements of this arrangement are the border authorities policing the EU borders and the technologies implemented for this purpose. Martins and Jumbert (2022) show us how the need for information on migrants (their histories, fluxes, and routes) by border agencies leads to the implementation of multiple technologies, such as body scans, biometric identification systems, and personal travel records (Bellanova and Duez 2016). This can be observed across different border management agencies and specially with Frontex.

Frontex operations occur in relation to a myriad of technologies (drones, scans, and satellites) (Marin 2011) feeding off provisional databases (Pollozek and Passoth 2023). A part of the Frontex information infrastructure is the JORA. Launched in 2011, it has the “capacity of sending, verifying, retrieving, visualizing, and, in general, managing operational-related data during the entire cycle of the operations coordinated by Frontex” (Frontex 2014a, 37). Pollozek (2020) showed us how patchy and dispersed

JORA’s assessment is and the disputes and negotiations are part of the circulation of data from incident reporters until JORA’s database. In a similar vein, Tazzioli (2018) argues how, although JORA’s goal is to provide real-time awareness, it allows for the coexistence of different temporalities of visibility that combine event data, archival data, and near-real-time data with a future-oriented organizational approach. This process structures certain “spaces of governmentality” and “strengthens states’ preparedness for potential uncertainties” (Tazzioli 2018, 7) through heterogeneous temporalities, showing how sovereign interventions are much more connected to heterogeneity than to linear temporal orchestrations. In this sense, JORA is an interface that connects border realities and EU border authorities through data, data visualization, and data reports on serious incidents (Frontex 2014a). It is structured around a visualization module interface (Figures 2 and 3) and a data reporting one.

There are few public pictures of JORA’s interface and its visualization module, but from the images above we can see the materialization of the points introduced by Pollozek and Tazzioli, with the green dots as border crossing events (Pollozek 2020) and the satellite image proposing a “real-time” time picture of EU’s maritime borders (Tazzioli 2018); what we can see is an interface that compiles and visualizes data relevant to border operations presented through digital maps and satellite visualizations of Europe, allowing JORA’s users to navigate through territories, compare information, and look for variations. So, what does this interface do to Europe’s borders, to the people who want or must cross its maritime frontiers—as refugees or asylum seekers—and to world politics more broadly?

Taking JORA’s interface visuality into consideration, there are three emerging issues. First, JORA’s interface becomes another place for border practices, and it does so by concealing the different temporalities and disputes that structure the work and the data work part of Frontex and presents this organization and its work as unidimensional, streamlined, and flat, contradicting the many evidence and work showing otherwise (Vukov 2016; Glouftsiou 2018; Tazzioli 2018; Pollozek 2020; Leese and Pollozek 2023; Pollozek and Passoth 2023). Second, it empties border crossing attempts from politics, erases migrant bodies and their histories, and, in turn, introduces colorful circles that need to be addressed and managed. This reinforces the idea that Frontex is doing apolitical and bureaucratic work and presents border crossing events as data representations and not as a human practice connected to hopes, feelings, and, most importantly, rights. Third, and consequently, JORA depoliticizes border crossing and border violence more generally, transforming the former into ahistorical and apolitical green dots and presenting the latter as the natural, bureaucratic, and normal way of managing borders and not as a conscious and deliberate exclusionary decision.

In addition, when we keep looking at JORA and attend to the logics, affordances, and political formations emerging from the interaction of users, the border agency, and the interface, we notice how this interface is implicated in a politics of uncertainty, ambiguity, and confusion (Glouftsiou 2023). In 2020, Frontex was accused of involvement in illegal pushbacks of migrants and refugees. These pushbacks involved forcibly returning individuals to countries where their lives might be at risk, contrary to international law. The accusations raised concerns about human rights violations and sparked calls for greater transparency and accountability within Frontex’s operations (Waters, Freudenthal, and Williams 2020). In 2022, an investigation by Lighthouse



Figure 2. JORA Visualization Module (Röhn 2018)

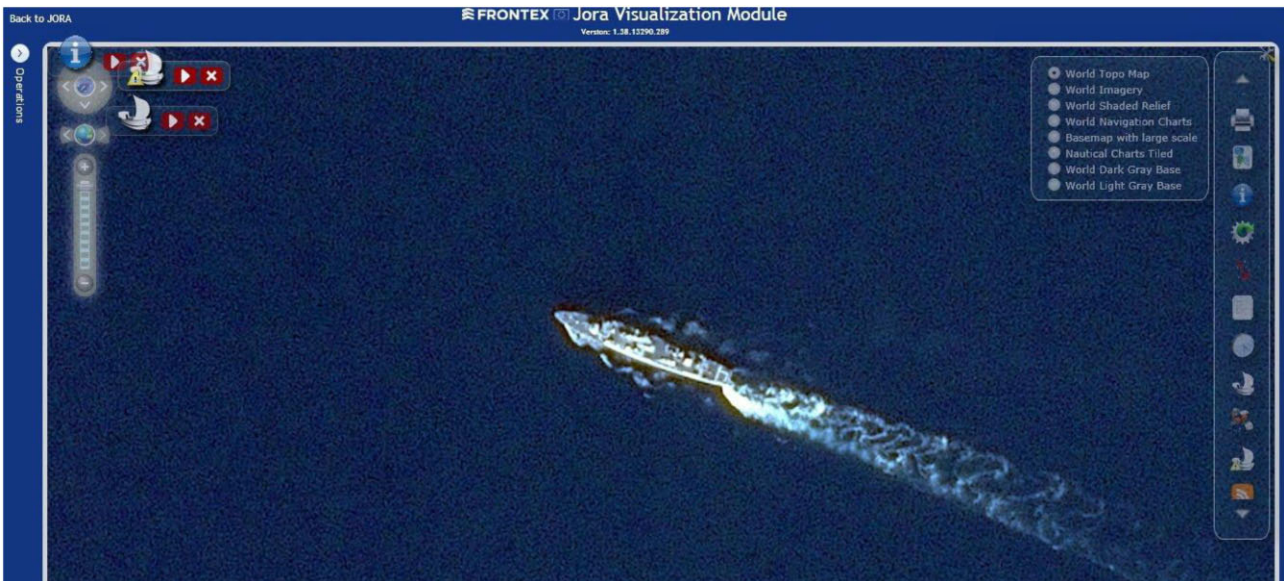


Figure 3. JORA Visualization Module (Frontex [@Frontex] 2016)

Reports, Der Spiegel, SRF Rundschau, Republik, and Le Monde showed how these events were registered in JORA as “prevention of departure,” giving the false impression that the vessels were stopped at non-European waters by non-European country authorities and prevented from leaving their point of departure. The investigation showed that this misleading terminology actually concealed the active participation of Frontex and Greek authorities in forcibly pushing

would-be migrants to Turkey (Lighthouse Reports 2022). This is a strategy adopted by Frontex to obfuscate its operations and, most importantly, its responsibility by deliberately fostering uncertainty, ambiguity, and confusion about incidents through improper categorization and the recording of contradictory and misleading information (Glouftsiou 2023). Inspired by Glouftsiou, my point in bringing this example is to show how an unexpected political formation cen-

tered around secrecy and concealment stems from an interface originally designed to circulate information (Frontex 2014b). JORA's digital and technical infrastructures were reappropriated beyond the original intention of developing a "framework for operational information exchange" (Frontex 2014a) and became an interface of secrecy part of a political configuration revolving around the obfuscation of violent border practices.

This shows that the situatedness of interfaces offers a pathway for exploring alternative political arrangements by shedding light on unexpected and alternative political practices. The case of Frontex and JORA exemplifies how engaging with interfaces can provide insight into a different side of Europe's border regime, be it the one sensed through JORA's visibility and/or its associated logics and practices. This example illustrates how investigating interfaces can lead to unexpected political formations, impacting world politics and, in this case, challenging transparency and accountability within border management agencies. The study of interfaces in the realm of global politics and IR can be a valuable avenue for critically examining power dynamics.

Governance on the Interface

Governance, like politics itself, is a highly debated, and still, quite vague, and opaque topic. As Pierre and Peters (2005) have argued, although this word has been widely used, it is still far from being precise. Here, governance is understood as governing, as the labor of constructing collective decision-making (Chhotray and Stoker 2009; Clarke 2012). In this literature, topologies are a central concern. Authors like Christopher Hood and Roderick Rhodes dispute if governance is centralized in nodes of authority with top-down power dynamics (Hood 2000) or networked with a dispersed and horizontal organization of actors (Rhodes 1997). What I argue here is that interfaces should be considered by IR because they both centralize and decentralize governance, a movement that is still underexplored and could provide potent insights into the relations between technology and political decision-making.

Interfaces centralize governance by engaging their aesthetic repertoire to attract and seduce actors and organizations with promises of precision and control (Andersen and Pold 2018a). The way interfaces present and visualize complex and layered human dynamics through two-dimensional viewpoints, clean layouts, geometric shapes, grids, and the inclusion of data sources is understood as an objective and neutral technique for assessing reality (Burri and Dummit 2008; Kennedy et al. 2016). As put forward by Catherine D'Ignazio and Lauren F. Klein (2020, 76), the line of reasoning behind it is that "the more plain, the more neutral; the more neutral, the more objective; and the more objective, the more true." In this scenario, when actors need information or want to decide on a certain topic, interfaces become reliable devices. Their reliability stems from an aesthetic performance of neutrality and objectivity anchored in the interactive combination of elements traditionally associated to decision-making, like data visualization, maps, databases, citizens' records, surveillance cameras, and communication tools such as the radio. This is the reason behind Frontex's engagement with JORA, since, in Frontex's own words, it centralizes operations and data from different data production instances within the agency (Frontex 2016). This reverberates across many different political organizations that engage with different interfaces for political decision-making, like the Ushahidi Platform used by USAID and UKAID that turns "information into action with an

intuitive and accessible crowdsourcing and mapping tool," "enabling the rapid collection, management, and analysis of crowdsourced information" (Ushahidi 2023).

Nevertheless, interfaces are part of complex systems and at the same time the effects of other actors and practices. For an interface to work, it must enroll distant and different entities in action, like electrical grids and cross-oceanic cables. An instance of a power outage could incapacitate JORA's interface, causing a chain reaction of outages that significantly impacts Frontex's ability to surveil and act in Europe's borders. This demonstrates how social and political dynamics, initially confined to the interface's individual parts, become integrated into the overall system. Interfaces, by involving diverse actors and materials in decision-making, decentralize governance, since the authority and capacity to decide are shared through the many entities part of an interface. One cannot decide with an interface without electricity, functioning computers, screens, and so on. In a Latourian fashion (Latour 2012), these elements are all parts that compose the interface and are also part of what is done with and by the interface. Moreover, each of these entities is attached to different social and political lifeworlds² that overlap with the interface's context of use, potentially fragmenting the capacity to decide afforded by this technology. For example, JORA data on "prevention of departures" were part of Frontex border enforcement activities, but it also assisted and enabled civil society organizations to shed light on the agency's push-back operations, pressing for investigations, more reporting structures, and transparency on the use of this technology (Lighthouse Reports 2022). This example illustrates how providing operational data to JORA to enable border operations also inadvertently facilitates the contestation of these very operations. In this scenario, the authority to decide how to govern the EU's border gets fragmented and decentralized by the interface, simultaneously facilitating border enforcement and its contestation. That is how the interface decentralizes governance, it enrolls multiple actors to participate in political processes, and they contingently and continuously act, decide, and, ultimately, try to politically govern matters of concern (Rhodes 2007).

In doing so, interfaces enroll their bits and pieces to act. A consequence of this process is the spread of the power to decide through actors and materials associated and connected to the interface. In this process, interfaces introduce a different kind of governance topology, both centralizing and decentralizing collective decision-making. Like a hurricane that first concentrates warm and humid air and then releases and spreads this air, interfaces introduce a constant movement of concentration and decentralization of governance. If we bear in mind the amount of political decision-making associated with interfaces—from the administration of health and environmental crises to engagements with security or humanitarian technologies—we see how they are increasingly participating in different stances of governance, becoming a new entry point to investigate the relations between political decision-making and technology.

Conclusion

Disciplinary IR has been experimenting with new ways of addressing technology. Not that technology is new in the field, which is not, but some recent work has been focusing on the material and more-than-human side of this equation. This work stems from this type of contribution to present a case

²Lifeworlds here refer to "the culturally defined spatiotemporal setting or horizon of everyday life" (Buttimer 1976) connected to the parts of an interface.

for the interfaces in IR. I proposed two reasons for IR to start looking more closely into interfaces, using the Frontex JORA as an example.

First, within the realm of political processes, interfaces offer a means for society to investigate how technologies participate and become integrated into political dynamics. As we have seen through various examples, interfaces can be creatively reappropriated beyond their original design choices or intended user experiences, leading to unexpected political formations and consequences. This creative agency allows for the emergence of alternative political realities worthy of analysis by IR. But more than that, interfaces also engage with the debates on aesthetics in IR, since they hold significant affective-aesthetic power, playing a crucial role in shaping the perception and understanding of information. This digital aesthetics has profound political implications, as it frames how politics is perceived, sensed, and legitimized by society (Bleiker 2018). As interfaces are deeply connected to various forces, including political, social, and economic factors, they become spaces where choices, languages, worldviews, and political promises are embedded into technical and digital infrastructures (Galloway 2012; Andersen and Pold 2018b). Having JORA as an example, a closer look to the interface showed us how their visibility conceals the complexities and disputes inherent in the data work of Frontex, presenting the organization and its work as streamlined and apolitical. This also implies the erasure of migrant bodies and histories, reducing border crossing attempts to colorful circles that need to be managed, thereby depoliticizing the experience of migration and the human rights implications associated with border violence.

Second, the analysis of interfaces in the context of governance reveals a complex interplay of centralization and decentralization of decision-making processes. Interfaces act as powerful mediators that attract actors and organizations with promises of precision and control. They centralize governance by presenting themselves as objective and neutral tools for assessing reality. The visual aesthetics of interfaces, with clean layouts, data visualizations, and geometric shapes, create an illusion of objectivity and truthfulness, making them reliable devices for political decision-making. For example, Frontex's engagement with JORA illustrates how interfaces centralize operations and data, consolidating decision-making within the agency. However, interfaces are not isolated entities; they are part of complex systems that involve various actors and materials. This interconnectedness means that the authority to decide with and through an interface is shared among multiple entities, decentralizing governance. The functioning of interfaces depends on diverse factors, such as electrical grids and computer networks, which are connected to different social and political lifeworlds. These entities become part of the interface's decision-making process, fragmenting the authority to govern. For instance, JORA data on "prevention of departures" initially served Frontex's border enforcement activities but inadvertently assisted civil society organizations in contesting the agency's push-back operations. This example demonstrates how interfaces decentralize governance by enrolling multiple actors to participate in political processes and act, decide, and govern matters of concern.

Overall, the examination of interfaces reveals their transformative impact on the discipline of IR and global politics broadly speaking. As interfaces bridge the gap between humans and machines, they mediate techno-political visions and expectations and participate in decision-making processes. The exploration of these forms of interface-induced changes in IR opens new avenues for understanding the en-

tanglement of humans, machines, and politics in the digital age. A way forward in exploring the enmeshments between interfaces and IR is tackling the genealogical, historical, and political continuities of older interfaces in world politics, such as the GPS. Some valuable questions that can move this research agenda forward are as follows: What kinds of political organizations and actors are using which interfaces and why? What is the role of other materials (e.g., chips and data centers) when thinking about interfaces and IR? What type of software is used, and how does this impact our understanding of global politics?

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