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# Revisiting metagames and metagaming: theoretical and methodological considerations

## Revisitando los metajuegos y el metajuego: consideraciones teóricas y metodológicas

## Revisitando metagames e metagaming: considerações teóricas e metodológicas

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## Abstract

In the context of information behaviour, metagames and metagaming have been used to refer to information work related second-order activities that go beyond the expected 'game' of informational undertakings. This paper continues earlier discussion on informational metagames and metagaming by revisiting the two concepts. It inquires further into how to theorise informational metagames and metagaming in terms of and in relation to what they do to information work, and discuss briefly issues relating to how to study informational metagames and metagaming empirically. It is proposed that metagaming can be conceived as a form of resistance, repair and extension of information work. As an often-invisible activity, the empirical study of metagaming is complicated by the difficulties to identify them, make them visible and to demarcate when an activity qualifies as a metagame. Some of the potential benefit of using metagaming as a lens to inquire into information activities are that it can help to shed light on the constituents and underpinnings of both games and their related metagames and to showcase and explicate the complexity and multi-normativity of information work related second-order activities.

**Keywords:** Metagames; Metagaming; Information Work; Information Behaviour.

## Resumen

En el contexto del comportamiento de la información, los metajuegos y los metajuegos se han utilizado para referirse a actividades de segundo orden relacionadas con el trabajo de información que van más allá del "juego" esperado de empresas informativas. Este documento continúa la discusión anterior sobre metajuegos informativos y metajuegos al revisar los dos conceptos. Indaga más

sobre cómo teorizar los metajuegos informativos y los metajuegos en términos y en relación con lo que hacen al trabajo de información, y discute brevemente cuestiones relacionadas con cómo estudiar empíricamente los metajuegos informacionales y los metajuegos. Se propone que el metajuego puede concebirse como una forma de trabajo de resistencia, reparación y ampliación de la información. Como actividad a menudo invisible, el estudio empírico del metajuego se complica por las dificultades para identificarlos, hacerlos visibles y delimitar cuándo una actividad califica como metajuego. Algunos de los beneficios potenciales de usar metajuegos como lente para investigar las actividades de información son que puede ayudar a arrojar luz sobre los componentes y fundamentos de los juegos y sus metajuegos relacionados, y mostrar y explicar la complejidad y la multinormatividad del trabajo de información. actividades relacionadas de segundo orden.

**Palabras clave:** Metajuegos; trabajo de información; Comportamiento de la información.

**Resumo**

No contexto do comportamento informacional, metagames e metagaming têm sido usados para se referir a atividades de segunda ordem relacionadas ao trabalho informacional que vão além do esperado ‘jogo’ de empreendimentos informacionais. Este artigo continua a discussão anterior sobre metajogos informativos e metajogos revisitando os dois conceitos. Ele indaga mais sobre como teorizar metajogos e metajogos informacionais em termos e em relação ao que eles fazem para o trabalho da informação e discute brevemente questões relacionadas a como estudar metajogos informacionais e metajogos empiricamente. Propõe-se que o metajogo pode ser concebido como uma forma de resistência, reparação e extensão do trabalho da informação. Como uma atividade muitas vezes invisível, o estudo empírico do metajogo é complicado pelas dificuldades em identificá-los, torná-los visíveis e demarcar quando uma atividade se qualifica como um metajogo. Alguns dos benefícios potenciais de usar o metajogo como uma lente para investigar as atividades de informação é que ele pode ajudar a esclarecer os constituintes e fundamentos de ambos os jogos e seus metajogos relacionados e mostrar e explicar a complexidade e multinormatividade do trabalho de informação. atividades relacionadas de segunda ordem.

**Palavras-chave:** Metajogos; Metajogos; Trabalho de Informação; Comportamento Informacional.

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# 1. Introduction

When ‘information behaviour’ is explicitly defined, the definitions routinely declare that it encompasses all types of conceivable informational undertakings. One of the most frequently cited one is undoubtedly Tom Wilson’s outline of the meaning of information behaviour as the ”totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use” (Wilson 2000, p. 49). Even if totality is characteristic to many definitions, instead of holism (Polkinghorne and Given 2021), the studies of information behaviour and information work have been frequently observed to focus on increasingly focussed perspectives and specific types and contexts of informational doings (Huvila et al. 2022). While early information behaviour literature was at the turn of the millennium criticised of focussing on professionals (Hartel 2003), cognitive rather than social and contextual underpinnings of information activities (Talja, Tuominen and Savolainen 2005; McKenzie 2003) and extensive model-building (Savolainen 2016), the more recent research has been criticised of dichotomising work and non-work (Savolainen 2008; Ocepek 2017), downplaying work-related information activities (Huvila 2020), and overdramatising contextuality to the point that much of information behaviour research has become reluctant to generalise, make specific recommendations beyond vague emphasis of the importance of contextual knowledge and (information) literacy education or argue for transferability or even operationalisability of findings (Huvila et al. 2022).

A part of the wavering between the principled strive for totalities and practical focus of different types of particularities does probably stem from a parallel, equally deep-rooted vacillation between normative ambitions of explaining information behaviour using neat and tidy, at least to a degree, linear models and making a clearcut distinction between good and bad information and information behaviours, and the awareness of the intense complexity of informational undertakings. A long line of findings of the variety and creativity of ways how people deal with information is at striking odds with the assumption of the rationality—in classical sense—of information using individuals. Such observations have been perhaps especially prevalent in the recent strands of

information behaviour research that draw from practice theories (Savolainen 2008; Cox 2013) and theories of contextual and situated forms of the rationality of human behaviour (e.g. Savolainen 2022; Godbold 2013; Huvila 2012) but similar observations can be found throughout the literature. Without suggesting that objectively bad information behaviour would not exist, many superficially questionable information practices do in fact follow a certain form of rationality and make sense to people who pursue them at least at the very moment when they are enacted.

In a paper presented in 2013 at the eighth Conceptions of Library and Information Science (CoLIS) conference and published later in the proceedings of the same conference I proposed two notions borrowed from game studies, namely *metagames* and *metagaming*, to describe and theorise informational doings that are at odds with the (typical) expectations and courses of action of dealing with information (i.e. information behaviour and/or information work) in a given context and situation (Huvila 2013d). The aim of this text is to revisit the two concepts, inquire further into how to theorise informational metagames and metagaming in terms of and in relation to information work, and discuss briefly issues relating to how to study them empirically.

Following Wilson, *information behaviour* is understood in this text along the lines of the above cited definition as a general term to refer to the totality of informational doings and the name of the research field focussed on studying them. In parallel, I use the notion of *information work* that refers to the 'information component' incorporated in all 'work'. Information work, as understood here from the premises of the sociological tradition that draws on the work of Juliet Corbin, Anselm Strauss and Dorothy E. Smith, unfolds as a subset of 'work' that consists of among other things "networking, scouting out, coaching and training, providing and clarifying instructions, distinguishing between needs and wants, searching for people, places, and necessary things" (J. Corbin and A. Strauss 1985, p. 244). 'Work' itself refers to "a distinct evolving set of inter-linked human activities with either explicitly or implicitly understood purpose, meaning and value" (Huvila 2008b, p. 798) that are not limited to paid or professional 'work' but similarly to Smith's (2005) view of work, cover also

unpaid and leisurely undertakings. As all types of work have 'an information component whether the work is manual labour or highly abstract decision making' (Huvila 2009, p. 697), information work *is* a substantial part of everything people do but at the same time it is first and foremost an analytical lens to a particular type of infrastructural 'sub-work' embedded *in* what people, and increasingly machines, do with and in relation to information.

## 2. Metagames and metagaming

Much similarly to parallel meta-concepts like metadata and metaverse, metagames and metagaming have been used in the literature to refer in somewhat diverging terms to various games and gaming related second-order conceptions. Most prominently, the concepts have been applied in organisational decision-making literature in game-theory inspired metagame analysis (Nigel Howard 1987; Levy, Hipel and N. Howard 2009), and more recently especially in game studies where it has been used to refer to activities that are contiguous to games and gameplay (Carter, Gibbs and Harrop 2012). Similarly to the earlier 2013 paper on metagames in information work (Huvila 2013d), this text builds on the latter to theorise metagame and metagaming as potentially useful analogies to explicate and understand information work related second-order activities and conceptions.

Even if the views on what counts as a metagame vary to a rather considerable degree, in somewhat rough terms that cover typical descriptions, *metagame* can be defined as a game made out of a game (Boluk and LeMieux 2017). In parallel to metagame, *metagaming* has been used to refer to various types of game-related second-order activities. Typically metagaming is perceived either as the activity of gaming a game or gameplay (Jantke 2010), or of theorising and critically engaging in the practice of gaming and gameplay (Boluk and LeMieux 2017). A glance to a few definitions provides a glimpse to the diversity of views. Garfield and Dietz (2000, p. 14) assumes a broad view of metagame to denote "how a game interfaces with life" whereas, for example, Debus (2017) identifies five categories of metagames including added, social, material, strategy, and rule metagames. Kokkinakis et al. (2021) for their part, approach metagames from a

distinctly instrumental perspective as "an optimised strategy based on the game and the game's surrounding structures" (p. 18).

Stipulating what qualifies as a metagame calls also for a brief discussion on what is a game. As Mäyrä (2008) remarks, drawing boundaries around what should be considered as a game or not, is to try to reach a moving target. In a very broad terms, a game can be described as being a particular kind of structure or system. Games are often characterised by the presence of goals although the exact nature of the goals tends to vary. A much-cited distinction is made between finite games with the aim of winning the game, and infinite games i.e. games played for being able to continue the gameplay (Carse 1986). From narrativist perspective a *game* is about narratives and stories (Ryan 2006). In contrast, ludologist perspective distinguishes games with rules (ludus) from (children's) play without rules (Frasca 1999). The difference of the perspectives is not, however, as clearcut as it might appear. Depending on how 'narrative' and 'rules' are defined, it is possible to argue that every game has a narrative and that even the most simple forms of play have rules (Hjorth 2011). Nevertheless, the distinction between rules or narratives focused games can still be argued to make certain sense, not as a basis for an exclusive classification of specific games, but as analytical categories to describe games and their characteristic features. As Ryan (2006) notes, there are games that are more empathetically dominated by either rules or a narrative. She illustrates the first category by using Chess and Tetris as examples of games where narrative is of little or no significance, and the second one by referring to such computer games as the Sims, which has a clear narrative structure.

Unsurprisingly, following the major conceptions of what makes a game, the second-order nature of metagames and metagaming tends to be associated with metanarratives or (meta)gaming against or adjacent to the rules of games. Both perspectives rely on breaking out of the game in one way or another (Aldred et al. 2007) to either influence it or its storyline (Jantke 2010) or to take over and appropriate the game for one's own purposes (Tan 2011), or in a broader sense, to engage in activities that are outside or peripheral but still linked to the game (Carter, Gibbs and Harrop 2012). Lickteig (2020) distinguishes mechanical

(engagement with game rules, mechanics and processes) and social (relating to fellow gamers in the game) metagaming.

The purpose of metagaming and developing and engaging in metagames can be practical and instrumental to the gameplay but as Steinkuehler (2007) emphasises, also to theorise the game and gameplay within and outside the game itself. Correspondingly, Carter and colleagues (2012) identify three different modes of metagaming: 1) as a higher strategy, 2) as breaking the fourth wall i.e. breaking out of the magic circle of the game, and engaging in activities the characters would not perform in-game, and 3) as activities that are within the sphere of game but not a part the game itself. Metagaming is typically social activity but its scale varies from individual tinkering to massive collaborations. Similarly, its nature is different when the metagame is related to single-player or different types of multi-player games. However, as Stenros, Paavilainen and Mäyrä (2009) observe, even in massive multi-player networks, much of practical metagaming tends to take place in colloquial contexts of small-scale collaborations.

Metagaming is variably construed in the literature either as constructive or detrimental activity, largely depending on the context where they are documented. Roleplaying games literature tends to portray metagaming as a harmful exploitation of information not available in the game (Layman-Kennedy 2003). Waskul (2006) distinguishes this unethical use of unavailable information from ethical metagaming where players avoid crossing the line of engaging in questionable behaviour. In parallel to the debate on its merits and faults, ethical and sanctioned generative modes of participative metagaming have increased in popularity and led to an emergence of entire genres of games that build on user engagement in metagaming and development of their own metagames (Prensky 2001).

Even if metagaming is an inclusive notion, not everything related or adjacent to games counts as metagaming (Stenros, Paavilainen and Mäyrä 2009). To distinguish game-related activities that fall outside of what can be considered as a metagame, for instance, Jantke (2010) refers to ‘extragame’ as activities that are unrelated to a game but happening during gameplay. Carter and colleagues (2012) distinguish two additional concepts of orthogame and paragame to further nuance

the landscape of what belongs to the game proper (orthogame) and what lands outside of its scope but is still adjacent to it (paragame). In contrast, Boluk and LeMieux (Boluk and LeMieux 2017) go for a broad definition of metagaming by extending the concept to cover not only the entirety taking place before, after, between, and during a game but also to encompass everything located in, on, around, and beyond them. In their view metagames unfold as an anchor that ties games to their material histories, practices of play, and the time-space where gameplay takes place.

Considering the discussion on metagames and metagaming in the literature so far, even a fairly superficial review of the conceptual landscape reveals a broad spectrum of perspectives. However, it is also equally apparent and unsurprising that 'game' and 'gaming'—understood from various standpoints— remain as kernels of their corresponding meta-level concepts. At the same time, even if metagames and metagaming have affinities with such narrower and broader concepts like workarounds, ignorance, shadow practices, non-conformant behaviour and creativity—including diverse specific types of workarounds (e.g. Freeburg and Klein 2022), forms of creative practices (Vyas, Veer and Nijholt 2013) and beyond—metagaming remains not as a generic workaround or an act of creativity but only in relation to something that would qualify as a game. Similarly, the outcomes of metagaming—whether they are against the game, for it, or aiming to broaden it—might remain off-topic but never off-domain to a particular game.

## 3. Metagaming and information work

Similarly to my earlier paper on the topic (Huvila 2013d), this text is referring to metagames and metagaming following the general understanding of the terms in game studies. A practicable working definition is to consider them as clusters or thickets (i.e., the metagame) of meta-level practices relating to a particular game and gameplay (i.e., metagaming). This perspective does first and foremost allow us to make interesting, and as preliminarily sketched in the previous paper, potentially useful comparisons to comparable activities in relation to information work that, as defined elsewhere, can be to a certain extent analogised with games

and gameplay. From narrative and rules-based perspectives information work can be approached as a system or structure of engagements with certain rules and a narrative structure. Any complementary or alternative conceptualisations of games are naturally not ruled out of the discussion either. In a broader sense, information work qualifies as a game to an extent it fulfils whatever criteria of a game are appropriate with a particular type of information work. In this respect metagame unfolds as a form of metawork (Magnusson and Minör 1993) i.e. work-on-work that helps individuals and groups to work their work, to discuss and develop it further. At the same time, approaching metawork or meta-information-work as a metagame appends an additional dimension to what aspects of the work and working with information it specifically addresses. Already here it is, however, important to emphasise that there are limits to this analogy and even more importantly, what I am not suggesting: that information work or information behaviour would (necessarily) *be* a game.

To support the argument that this analogy holds, it is relatively easy to draw examples from the earlier literature in addition to those presented in the previous, already several times mentioned, conference paper. In two, in many respects widely different, albeit to myself familiar contexts from my earlier and on-going research, namely healthcare and archaeology, metagaming is a rule rather than an exception. Having said that, comparable practices are not anyhow specific to these domains. Diverse examples of activities that could be designated as and used to exemplify metagaming can be found across professional, leisurely and domestic contexts. Recent literature on workarounds, for example, in library work (e.g. Nicol et al. 2022; Freeburg and Klein 2022), public administration and healthcare (e.g. Huang et al. 2020; Barrett 2018), and for example, Arlene Hochschild's classic study on domestic work (Hochschild 2003) and Nicole Dalmer's work on family caregivers (Dalmer 2020) are just a few examples of studies that stage a surfeit of examples of metagaming-rich information interactions.

In healthcare, an illustrative example of metagaming—however, without explicit reference to the concept—and information work in the flux can be found in the study of Berg (1997). He describes the development process of a medical expert system and the clash of practices (or, games) when system designers seemingly

tried to develop a tool to support healthcare work but ended up enforcing major adjustments to the medical practice to make it compatible with their tool. This led partly to that nurses started metagaming the game introduced by the tool by ignoring it and physicians started to metagame the procedures of patient care related information work through the tool to foreground their priorities. Partly it led to the introduction of multiple metagames, new sets of procedures that gamed the original medical procedures the tool was about to change and subsequently new medical procedures that stemmed from the procedures established by the tool. The new (meta)games adjusted and ignored not only the rules of the original game by determining who was supposed to make decisions on the care of patients but also on how, in which order and by what premises these decisions should be made. In parallel, they also changed the narrative of patient care at the department where the system was implemented and what was important and central information to support decision-making.

A parallel example of a large scale metagaming of the gameplay of information work in the healthcare context can be found in the on-going implementation of patient accessible online medical records around the globe. Giving patients access to their primary healthcare documentation has been argued—and to an increasing extent documented (e.g., Moll et al. 2018; Zheng and Jiang 2022; Kujala et al. 2022)—to generate benefits for both individuals and societies, for example, by helping patients to become more informed and involved in their own healthcare, improving communication between patients and professionals, and consequently, helping people to live healthier lives. However, at the same time the reform entails a thorough metagaming of the medical record and its associated information work. It has led to a radical stretch in not only the information work of patients who are expected to utilise a new information source originally designed to support professional information exchange but also for professionals who are pushed to reimagine one of their key information infrastructures.

Besides the healthcare domain, archaeology is another field where it is equally easy to find examples of metagaming. Even if archaeology is often portrayed as an exemplar of a branch of scholarship that puts a lot of weight on systematic and rigorous documentation and preservation of information, empirical studies of

archaeological information management demonstrate both its complexity and reliance on tacit and informal rather than formal and systematic knowledge exchange (e.g. Buchanan and Erdelez 2019; Huvila 2018b; Dallas 2015; Davidović 2009; Sellers 1973). Börjesson and Huvila (2018) describe the importance of locally developed micro-systems and informal archival infrastructures for everyday information work that exist in parallel to the officially endorsed information systems, and their associated informal procedures that keep the information work afloat. Sometimes the use of local systems can also stem from a conscious resistance to adopt *de facto* standards and sometimes from a desire to extend information work beyond the experienced limitations of such systems (Huvila 2016; Huvila 2021).

A refusal to implement new systems and information management procedures exemplifies also how waiting (as for Moralde 2019) can qualify as a form of (active) metagaming. In Swedish archaeology, the waiting for the deployment of a comprehensive national information management solution could even be termed as, albeit an admittedly passive, form of attempting to mend the game rather than merely trying to temporarily patch up one's own daily work tasks (Huvila 2016).

Also the presence of multiple micro-systems can be a sign of metagaming in terms of engaging in several parallel 'works' that are performed hand in hand but not necessarily supported to an equal degree by the official information infrastructures. A study of Swedish archaeological heritage administrators showed that while their work—the principal game they are playing—is focused on administrative duties, they are also engaged to varying degrees in the games of public engagement, research and education among many others. In the work of the administrators the unequal infrastructural support is perhaps most apparent in how information systems are increasingly geared towards facilitating archaeological heritage management (Huvila 2021) whereas their usefulness for supporting archaeological research (Löwenborg 2014) or, for example, public engagement tends to be limited. Even if the administrators' work is illustrative of the multiplicity of partly overlapping games and metagames, a similar multiplicity of work roles and participation in a sundry informational games is typical not only to them but to archaeological work in general (Huvila 2008a).

Apart from what can be described as ‘shadow practices’ (McCoy and Rosenbaum 2019), metagaming encompasses also frequently development and use of shadow systems (Shaw 1997; Behrens 2009). Such systems can take many forms from small-scale self-developed databases and applications to continued used of legacy systems and repositories of information Blomberg and colleagues (1997) call working document collections. Often such informal arrangements and collections complement official infrastructures and compensate for their shortcomings but sometimes replace them due to the lack of feasible alternatives (Taylor, Gurd and Bardini 1997).

Metagaming, including shadow practices and the use of shadow systems, is not necessarily a sign of dissidence but rather a means to get the (information) work done (Hedstrom 1993). Far too often the official system (game) is, as in many highly cited studies of early computerised information systems (Gasser 1986; Suchman 1987; Forsythe 2002), either too rigid or not elaborate enough to support the work they are intended to facilitate. In archaeology, this applies regularly to formal documentation systems that frequently need to be adapted to accommodate additional information (see e.g., Boyd et al. 2021). While finding and recognising a metagame can be difficult—as discussed in more detail later in this text—the presence of unofficial collections and informal micro-systems can provide an indication of the presence of one or multiple metagames that follow either entirely or partially a different set of rules and narrative than the game that is gamed. Metagaming does not, however, require the presence of such additional tools. A metagame can be played using officially sanctioned systems as a recent study of an archaeological excavation dataset (Börjesson, Sköld et al. 2022) evinces. The key issue is rather the presence of a parallel metanarrative, set of rules, or another constituent of a game that breaks against or in some other ways (meta)games information work as it is supposed to be happening.

## 4. Theorising metagaming in information work

In the earlier article (Huvila 2013d), I introduced three directions how the concepts of metagames and metagaming might contribute to a more nuanced understanding of the intricacies of information work, and more broadly to

information behaviour research. According to these propositions, metagaming was suggested to help to inquire in a more inclusive sense into the plurality of both practices and goals of informational undertakings, to help to investigate informational second-order activities more nuanced as peripheral (Jantke 2010) and off-script (Aldred et al. 2007) but not completely off-domain undertakings, and to mobilise the analytical potential of exploring the affinities between information work, games and gameplay to elucidate the understanding of human information behaviour.

While acknowledging that there is room to elaborate each of these three perspectives, a vantage point left untouched in the earlier text is the question of the mechanisms how activities that qualify as metagaming in a practical sense shape information work. As a theoretical exercise, the question translates to what metagaming does to information work. Drawing on an admittedly somewhat cursory cross-review of a selection of works on information behaviour, information work and metagaming, my suggestion is that there are at least three distinct senses how this might occur. Each of them: 1) metagaming as resistance to routine, 2) metagaming as a form of repair, and 3) metagaming as a form of extending information work, will be discussed briefly in the following.

## 4.1. Resistance to routine

First, I am positing that as a form of (meta)gaming against the rules of the game, metagaming is often characterisable as a form of *resistance to routine*. Such metagaming can take many forms from resistance to information (Bronstein 2019) and information sources (e.g. Chatman 1996) to resistance to particular modalities of information work, such as active seeking or management of personal or professional information. Depending on its form and proportions, metagaming can unfold as an undertaking that compares to organised forms of resistance, although to remain characterisable as a second-order activity, the activities that are probably most fruitful to conceptualise in terms of metagaming, fall within what Scott (1985; 1989) has termed everyday forms of resistance: small subtle actions against ‘transcripts’—established ways of behaving and speaking i.e. something that could well be called games—that do not qualify as a full rebellion. Such

forms of resistance encompass also acts that do not have to incorporate rule-breaking or going directly against the script but rather what Kleinman and colleagues (2020) describes in the context of narrative games as rewinding i.e. different forms of going back and remaking choices during a game.

Independent of whether metagaming entails breaking rules in a detrimental or generative manner, as a form of everyday resistance it is performing what Kavita Philip (2005) describes as a pirate function. Metagames that are breaking against the game are disrupting and acting in margins against the establishment. Philip's references to fandom and facfiction as examples of contemporary pirates illustrate how a pirate is a metagamer and vice versa, a metagame is acting as a pirate. In case of fandom, fans are metagaming original works (as a form of game) and with facfiction facts and fiction by giving a factual reportage a poetic overcoat. Metagames can act as pirates also in a more direct manner as means to work against existing and resisting the institution of new structures and infrastructures.

While Philip's examples do not self-evidently qualify as examples of information work, information behaviour literature and studies in lieu information behaviour research provide a plenty of examples of information interactions that are reminiscent of pirate-like everyday resistance to routines. Berg's (1997) account of how nurses and physicians metagamed systems development exemplify the quality of metagaming as a form of everyday resistance when compared to highly organised forms of resistance, for example, against a new federally mandated implementation of electronic medical record in the US in Dan Sholler's (2020) interview study. The reluctance among some Swedish archaeologists to adapt to the use of *de facto* standard solutions for information management provides another example of everyday resistance that functions, using Philip's (2005) term, as a 'pirate', employing methods outside of the rationality of the standardised game of archaeological heritage administration to resist—or straight out, hijack—the game to follow local rules and aims, and to benefit local actors rather than the 'system'.

## 4.2. Metagaming as a form of repair

While a part of metagaming is conveniently framed as acts of resistance and even 'piracy'—being either consciously or unconsciously benevolent, malevolent or both, depending on the perspective—it sometimes works in terms of what is better described in terms of a kindred function of *repair*. Repair (Denis and Pontille 2020) can overlap and parallel with resistance providing it with a raison d'être but with another intrinsic rationale. Rather than resisting and fighting back, acts of repair are "subtle acts of care" (Jackson et al. 2014, p. 221). Rather than holding against, they aim at mending the game, and as Denis and Pontille write about repair, standing out as an "operation of putting", or perhaps *re*putting, it "in order" (Denis and Pontille 2020, paragraph 3) even in times when repair cannot always, if ever, escape creating new, (Graziano and Trogal 2019). In this respect the difference between repair, workarounds and hacking is subtle yet significant (Schabacher 2017). Repair calls for zooming out of the immediate concerns of a task in hand and an eye for a bigger picture of the information work beyond improvising a quick fix to what needs to be completed at the moment (cf. González and Mark 2004). While repair can "effectively intervene in the economies of play, they must always be critically reflected on and constantly remade" (Bassett 2018, p. 2228). In this respect, while emphasising continuity and sustainability rather than breakdown (Jackson et al. 2014), metagaming as a form of repair comes close to a specific form of constructive confrontation, unfolding as a "form of 'generative resistance' that can clue us into the viral and invisible forces that structure how we play with and how we are being played by digital media more generally." (Bassett 2018, p. 2228).

Considering empirical examples, while the development of informal archival infrastructures and micro-systems in archaeology evince of patching the game rather than merely trying to avoid its immediate shortcomings, repair is even more apparent in the study of archaeological archiving specialists (Huvila 2016) in how they were advocating for the development of a comprehensive national information management system for Swedish archaeology. Sometimes also the institutionalisation of the use of social information to complement official records system (as in Huvila 2021) can turn to a form of repair. In Berg's (1997) study,

the physicians' successful campaign to metagame the game of patient care related information work works as an example of another form of repair that clearly surpasses what is describable as a workaround.

## 4.3. Extending information work

A third sense metagaming can be thought to influence information work is through extending it. As with resistance and repair, the shift from repair to extension can be opaque. Even a small glimpse to the major adjustments to, or metagaming of, much of the information work around the world in a globally unprecedented scale in the beginning of the CoVID-19 pandemic illustrates the difficulty of drawing this fine line. A large number of studies (e.g. Nicol et al. 2022; Poole 2022; Zimmerman and Ni 2021; Whillans, Perlow and Turek 2021) describe how information work was in one sense repaired but at the same time the magnitude of changes suggest that the shift might better be describe as *extension*. Extending can involve broadening the scope of information work and eventually bridging contextual boundaries between its individual instances much similarly to Boluk and LeMieux's (2017) idea of metagaming as extending beyond game in space and time, and how Carter et al. (2012) refer to metagaming in terms of extending the game universe. Sometimes the differences in how information work is enacted might not necessarily concern the game itself but remain on the level of diverging metagameplay. In this sense, metagaming unfolds as an active enactment of what is often described as the context of the game. Also here the pandemic brought to the fore examples of how different extensions could imply considerable changes in the gameplay through various mutually different types of solutions to information exchange in distance and onsite with corresponding adjustments to game mechanics and its social dynamics (as for Lickteig 2020) even if the game itself remained much of the same. The introduction of patient accessible online medical records provide another example of metagaming that indubitably qualifies as an illustrative example an extension. A parallel case in archaeology is the strive to open primary research data and publications for the public, for example, for the purposes of public engagement, education, creative reuse and citizen science (Pétursdóttir 2020; Marwick 2020; Sakellariadi 2015).

An integral aspect of the both cases is how metagaming-as-extension stems from and enacts contextuality of gameplay—or information work.

Considering the examples of metagaming as extending information work, one of its conceivable outcomes and eventual benefits is what Hjorth and colleagues (2020) discuss in the context of Minecraft as everyday creativity and practice that is constitutive to the formation—and extension—of communities involved in the gameplay and development of new literacies. Also, in the context of information work, it is conceivable that the above discussed and other thinkable forms of metagaming-as-extension have a much similar impact on the formation and evolution of the communities involved in particular instances of information work and what it takes to become and act competently according to their rules and narratives.

## 5. Approaching metagaming empirically

In parallel to how theorising with metagames and metagaming can help to highlight several critical conceptual aspects of information work and information behaviour, placing them side by side come with an opportunity to open up new empirical vistas to informational undertakings. Similarly to how rhetorical genre scholarship has been suggested to help to trace continuity and change through intertextual readings of evolving genre combinations—how different official and unofficial documents and information are used together to get work done in different temporal and spatial contexts (Foscarini and Ilerbaig 2017)—following games and their respective metagames and how metagaming is practiced can help to follow the change of what is official and endorsed, and what different second-order activities are gaming in relation to the game. In this respect the central analytical lens is the distinction between the game and metagames.

There are, however, several partly more and partly less self-evident issues that complicate studying metagames and metagaming in informational contexts. First, as typically with non-conformant behaviours, people might not feel comfortable talking or writing about their metagaming. Second, as a form of half-visible or entirely invisible work, even those who engage in metagaming might not recognise their own activities. Observing metagaming can be difficult for the

same reason, due to it subtlety for both metagamers and observers of metagaming. Metagaming is also likely to happen only occasionally and not as a continuous activity. Third and finally, metagames are moving targets. They come into existence and fade away. Sometimes metagaming turns to gaming or is gaming and metagaming at the same time. All of this requires sensitivity to not only where and how to find metagames but also to recognise when they take place.

## 5.1. Finding metagames

Keeping the caveats in mind, there is no reason to believe that metagames and metagaming would be impossible to study. The first complication with metagaming is the same than with all other second-order activities. The first and possibly most critical obstacle to evidence-based inquiry into metagaming is the difficulty to anticipate metagaming and the forms it can take. Studying metagaming unfolds in this sense as an endeavour of capturing something that is *a priori* unexpected. Here a natural starting point is to turn to the earlier studies and methodological literature on studying anomalies and non-conformant practices. In this case, as Solomon (1997) reminds of research as a whole, it is a creative process that operates from the basis of exploiting and bringing together different ideas, interests, questions and intuitions and systematically working around any more or less obvious barriers.

In finding and identifying metagames and metagaming, a crucial premise is to find and employ such prompts that help study participants to turn their attention to what exactly characterises their information work and what else is done in lieu of it. The advice stressing the importance of recognising invisible routine practices and in articulating the complexity and non-routineness of activities dubbed as routine (Blomberg, Suchman and Trigg 1997) is highly applicable also here. When something is metagamed, it is probably a routine i.e. a part of the game. However, comparably, if a ‘routine’ takes a lot of metagaming to complete, it is pertinent to ask to what extent it really should be characterised as a routine, and whether the game and metagames might be found elsewhere.

In this respect studying metagaming bears clear resemblance to inquiring into other potentially difficult to discuss topics such as misinformation and

disinformation (e.g. in Ruokolainen 2022) that benefit of both direct and indirect probing. This applies to studies with humans but also to document analysis. In the latter case, the prompts are important for the researcher to figure out ways how information work could be described in the source material.

When tracing evidence of information work in online texts, it takes a lot of reading and testing different ways to construct useful queries (Huvila 2011b). When interviewing or developing surveys, it takes a comparable effort to help study participants to focus on critical processes and incidents. In this respect, it can often be a question of finding the right words but also words and terms to avoid. To exemplify, a counterintuitive but useful approach that has helped me in my own research has been to avoid using the word *information* whenever discussing information work in general and information work related second-order activities in particular. Rather than assuming that both the interviewer and interviewee—or survey creator and participant—share an understanding of 'information' or 'information work', letting study participants to tell how they get to know what they need to know in their pursuits (e.g. as described in Huvila 2006) can help to leave the floor open to cover a broader variety of doings than only those they explicitly consider as relevant to what they consider as information, information work and related second-order activities.

A comparable method of identifying metagames used in a series of interview studies with archives (Huvila 2015), library (Huvila 2013a) and museum (Huvila 2013b) professionals and archaeologists (Huvila 2008a; Huvila 2016; Huvila 2021) was to explicate information work—and in practice, how it is metagamed—through engaging study participants in an imagination exercise (Segar, Spruijt-Metz and Nolen-Hoeksema 2006) to reflect how they would change the present to arrive at a (future) ideal state of affairs in their professional work. The prompt used asked the study participants to describe how their (information) work would look like if they could do any changes to it they liked without any limitations due to lack of time, financing or other resources. While the explicit focus of the studies was not in developing accounts of metagames and metagaming, the probe and the descriptions of actual and desired metagames nuanced the understanding

of study participants information work, its regularities and irregularities, and what in the present game required metagaming to keep it going.

Gilbert and Christensen (2005) point to another interesting, potentially useful approach to study metagaming they term anomaly-seeking. Anomaly-seeking starts by formulating a theory. In metagaming research this would entail a theory of the game that eventually might be metagamed. The second step is to compare empirical observations to the theory and see what it is capable of explaining. Anomalies that go against the theory can be assumed to be candidates to metagaming or potential indications of the presence of something relevant to metagaming and understanding it.

As a whole, the intricacy of finding metagames and metagaming is often fundamentally a question of identifying such techniques that help to turn attention to potential and actual information work related second-order activities. It is often about approaching information work from an opposite direction. Instead of starting from metagames and metagaming, a more productive approach can be to start with work, continue to probing into its related information work and from there to continue to digging into its second-order activities.

## 5.2. Making metagames visible

Even if finding metagames can be troublesome, perhaps the most significant reason for the difficulty of systematically studying metagaming still is their nature as, by definition, meta-level activities. Rather than as conscious and planned undertakings, they unfold frequently as small adjustments and shifts to routines. Such endeavours as notoriously opaque or completely invisible undertakings mean that they easily remain undocumented and unrecognised even for those who engage in them (J. M. Corbin and A. L. Strauss 1988, p. 209). Because metagaming is not (necessarily) put on record or talked about, it can be often be made visible only through meticulous observation or narration of actual doings, using indirect evidence, and critical incident techniques.

Sometimes a practicable approach to narrate a metagame can be to ask study participants to describe the game and their typical metagaming through a proxy. A

study of interpretative work in archaeology and significant informative properties of physical artefacts for archaeologists asked study participants to imagine that a ballpoint pen would be an archaeological find and analyse it accordingly (Huvila 2014). The findings showed how the interviewed archaeologists tended to put emphasis on direct observations of the artefact, reflect upon its context of discovery, and hypothesise on its possible contexts of use. Simultaneously the study showed how the participants readily elaborated on diverse secondary properties like text printed on the pen and their previous experiences of similar objects and knowledge of where and how they had acquired it. Especially revealing about their real-life metagaming were the frequent references to why and how the task of analysing a contextless contemporary object is a highly artificial exercise from an archaeological point of view.

A comparable analytical rather than empirical exercise to showing an archaeologist a ballpoint pen could be to try to conceive how a specific known metagame would unfold in a different context. However, apart from serving as an example of using proxies to make metagames visible, the example illustrates also the opportunities of making metagames and metagaming visible through playing routine and exceptions to it against each other. As routinisation tends to push even second-order out of the consciousness of those who engage in them (M. C. Becker 2004), probing into what is considered to be typical and untypical, what is typical *in* the untypical and untypical *in* the typical can help to unpack of the layers of nested, overlapping and discrete games and their related metagames, and approach the third question discussed in the following section i.e. when an activity becomes a metagame and ceases to be one.

## 5.3. When is a metagame?

A methodological challenge that parallels with identifying and narrating metagames is to inquire into their temporalities. Here a useful approach is undoubtedly to follow Yrjö Engeström (1990) in asking not only what might be the (meta)game but also when is a particular (meta)game. Thinking back to the multiple overlapping games archaeologists, including archaeological heritage managers, are playing, the question becomes crucial as a premiss of being able to

identify what moves are a part of which game, and when metagaming takes place, what (meta)game is being (meta)played, and when game turns to a metagame, metagame to a game or another metagame. As both Berg's study of the development of a medical expert system and examples from archaeological heritage management suggest, playing one game might be simultaneously mean metagaming another. In Berg's (1997) study, when nurses were, as suggested earlier, metagaming the procedures enforced by the new system, their actions unfold in parallel as attempts to stick to their own game. The same is apparent in the development of informal archival infrastructures. Informal archiving is metagaming the game of formal archiving but at the same time, it stands out as an attempt to play according to rules and the storyline of another game of how archaeology should be archived.

One possible approach to unpacking the question of when metagaming starts and ends is to consider in ludological and narratological sense what would be the rules and/or narrative of a particular information work game, and when a specific game takes precedence. In regulated professional work settings, the answer might appear as more self-evident than in leisurely activities. However, as the earlier examples of the complexity and convoluted nature of seemingly straightforward procedures and similarly numerous examples of the systematicity and orderliness of many forms of leisurely pastimes (Hartel, Cox and Griffin 2016; Lloyd and Olsson 2019) evince, it is relevant to consider the question more thoroughly. Also everyday life is an institution (Smith 2005) that someone (read, many) undoubtedly finds important to metagame. In a pair of studies of how people described their everyday life social information acquisition and web searching in online texts (Huvila 2011a; Huvila 2013c), it was possible to extract, through mining web searching related utterances using webometric data gathering tools, references to activities that can be termed metagaming (Huvila 2011b). The evidence of any set procedures or rules was at the most indirect but the analysis could still point to several factors—from bashfulness to discuss particular topics with family members to an expectation to search properly for information, especially before asking a question on an online discussion forum—that functioned as de facto rules of the studied informational games and formed thresholds that separated games and metagames. In the studied context *when*

playing by the book turned to resistance, repair or extension of expected information work was quite apparently difficult to determine. A close reading (as for DuBois 2003) of the "variety of characteristics and patterns in the information seeking situations and their contexts" (Huvila 2011a) provided enough cues to draw some distinctions even if the anonymity and brevity of the material restricted the possibility to draw definite conclusions especially in individual cases. Oudshoorn and Pinch's (2008, p. 557) healthy reminder that is relevant also for anyone even for identifying temporal boundaries between being and non-being of metagames is that while "users are no respecters of boundaries [..] studying [them] forces the analyst also to identify those boundaries" whether they exist between games and metagames, metagames and other metagames, or between metagames and such second-order activities that are better characterisable using other concepts, for example, in terms of workarounds, ignorance, or creativity.

# 6. Discussion

After a brief and admittedly superficial excursion to what the concepts of metagaming and metagames could offer and would demand both empirically and theoretically, it is appropriate to turn attention to the conditions of the pair of concepts itself. Perhaps one of the major motivators why metagaming eventually could matter as a concept and label for an empirical phenomenon both in theoretical and empirical sense, is the convolutedness of the rapidly changing contemporary information landscape and the quite apparent difficulty to grasp it. The flux of the informational infra- and superstructures of working life, the intertwining of work and non-work, and the private and non-private spheres (Broadbent 2016; Gregg 2011) accentuate the significance of making and investigating distinctions between informational undertakings on different layers and levels of activity. The fact that the game of work together with its associated information work become increasingly convoluted with a plethora of metagames means that making the distinction between the two is a key to keeping in both analytical and practical sense formal and informal work (Pfau-Effinger, Flaquer and Jensen 2012) and inner and outer working lives (Andersen 2012) apart from each other. The increasingly polymorphic, oblique and ambiguous workings of today's information work means that the predominance of metagaming—or as

Erickson and Sawyer (2019) describe it as bricolage—is not a sign of failure of gamers to play or a defect in any particular game of information work but rather a symptom of how the contemporary reality conditions information work. Further, at the present not only people metagame other people's games but also technologies from algorithms (Lee et al. 2015) to physical tools and environments (Freeburg and Klein 2022; Azad and King 2012) and digital user interfaces (e.g. in VanValkenburgh et al. 2018) game the games they are participating.

In the midst of the change, merely acknowledging the possibility of metagaming at the present can also function as forms of anticipatory action (Anderson 2010) that can facilitate future metagaming by shaping the game at the present. Metagaming also brings about such disruption in routine information work Savolainen (1995) underlines as a precondition to a heightened awareness to information that makes is relevant and 'takeable' (Huvila 2022) in a new situation.

## 6.1. Emphasis on what is metagamed

First, even if it may sound somewhat self-contradictory, one of the benefits of thinking in meta-terms about information work is that *metagaming turns attention to what is being metagamed* and consequently what in the relation of games and metagames tell us about the game the metagame is, for instance, resisting, repairing or extending. While the inherent invitation of the concept to analogise informational undertakings with games invites to consider what is metaplayed precisely as such, it is not the only possible approach. Still as briefly touched upon already in the earlier article, considering what exactly would constitute a game of information work, and for instance, from a ludological perspective, what would be the rules, and from a narratological one, the storyline of information work, can undoubtedly be helpful in elucidating the object of metagaming. However, to exemplify, games and metagaming can also be understood as an extension of what Lucy Suchman (2007) has famously discussed in terms of plans and situated actions. Game is the plan and gaming actions that follow the plan while metagame encompasses the situated actions that makes the complex whole work. While staying with Suchman's criticism of the views that actors would primarily draw

from plans in their activities, a game-metagaming relation suggests of an alternative—broader and more complex—idea of what constitutes a standard, of what actually happens, and of the relation of the two. While metagaming can be as unplanned as Suchman (2007), and prior to her Garfinkel (1967), suggest of situated activities, the idea of metagames of games and metagames of metagames as analogous to games underlines even more explicitly how situated actions are not always that *ad hoc* and how even meticulous plans have loopholes.

## 6.2. Constituents of information work

Besides the apparent alternative to consider what essential qualities of games characterise information work, the concepts of metagames and metagaming invite also to pose the question from a slightly different perspective and ask *what is constituent to information work if it was a game*, in lieu, for instance, its associated rules and narratives. Dalmer and Huvila (2020) suggest that the affordances of framing informational undertakings in terms of work include bringing the effort invested in information activities to the fore, the possibilities to discuss their visibilities and invisibilities by building on the extensive corpus of research on the invisibility of work, and to emphasise goals that relate to informational undertakings. Other definitions of (information) work highlight obviously, partly different traits. However, notwithstanding the specific concept, they all form a basis for probing into what information work is and what is pertinent about it. Apart from potentially helping to bring clarity to the relation of different instances of information work by forcing to consider what game and metagame are related to each other and how as suggested in the earlier conference paper (Huvila 2013d), another consideration that is both necessary and potentially useful, is that apart from being bundled with a specific game, a particular metagame is also a game by its own right with its own structures of narratives and rules but also effort, goals and beyond. However, independent of the specific qualities of games and information work brought to the fore, as Egliston (2020) reminds by criticising metagaming literature, while ruminating on particular concepts, it is crucial to avoid essentialising metagaming especially when the purpose is to use the concept to say something useful on its underlying activity,

the game without meta-prefix. A similar risk to avoid pertains to analogies between games and information work. The popularity and apparent analytical usefulness of the notion of gamification and the general confusion of what might entail (Vesa and Harviainen 2019) reveals both much of the potential of exploring the nexus of games and work but at the same time makes evident the its caveats (Landers 2019) and necessity to be clear of where the eventual affinities might be considered to be found and what is the purpose of the such an exercise.

## 6.3. Metagaming is (not only) good or bad

Second, in contrast to tendencies to characterise second-order activities either as conforming (good) or non-conforming (bad), *metagaming offers a perspective that withholds from a priori normative verdicts on doings and their consequences*. Metagaming can be either good, bad, or to different extents, the both, depending on perspective, how the metagamed game is constituted, and how it unfolds, for example, as act of resistance, repair or extension from the perspective of those who in one way or another involved in or influenced by the metagame. Depending on the game i.e., information work and its associated work, second-order activities and what they do to information work can be equally well for either good or bad.

However, rather than relativising everything that happens outside of the game, a conceptual and empirical inquiry into metagaming and metagames helps to identify and name potentially significant irregularities. Felin and Foss (2009) has called attention to what forms a small subset of metagaming, exceptions in routines, that in an organisational context, without exception and unlike the regular flow of activities, should call for managerial attention. The nature of necessary attention should not be predetermined with exceptions or metagaming but must, reasonably, be founded on what metagaming is about and what are its consequences—for example, exactly how and what it resists, repairs or extends.

## 6.4. Metagaming is complex

Third, both how the concept has been outlined in the game studies literature and sketched out in the previous text and here, *metagaming refers to a broad spectrum*

*of intermingled second-order activities* being inclusive of but not limited to workarounds, ignorance and creativity with the purpose and outcome of, again to exemplify, resistance, repair, or extension. This characteristic of metagaming helps not only to what was noted in the earlier text as an opportunity to inquire into the "the diversity and layered nature of information work" (Huvila 2013d)—activities and their different types of meta-level activities—but also into how the meta-level activities in various ways can remind of and be distinct to each other in different domains and situations. In some cases, the purpose of metagaming is undoubtedly to contribute to winning a finite game (cf. Carse 1986), much of metagaming is directed towards continuing the playing of one or several of the (in the current perspective) infinite games enacted in a given situation. While many individual actions in healthcare and archaeology can be no doubt described, for instance, in terms of workarounds they are at the same time to a different degrees incorporating characteristics of a shadow practice (McCoy and Rosenbaum 2019) and deviance (H. S. Becker 1997). Rather than focusing on individual features of second-order activities associated with information work, metagaming helps to open up the perspective of inquiry to a universe of (potential) meta-level doings. To this end it is pivotal to stay open to what and how different meta-level activities can be linked to information work, how to make and keep possible linkages visible, but also to what forms metagaming itself can take. A prominent risk in this respect is to focus too much on individual mechanisms of metagaming and perhaps especially on the aspects of metagames that go against games, for example, in terms of rule-breaking or breaking their narratives. Metagaming can also be generative, for instance, in terms of repair (Denis and Pontille 2020) or rewinding (Kleinman, Caro and Zhu 2020) as the examples from healthcare and archaeology demonstrate.

## 6.5. Implications of metagaming perspective to information work

Finally, approaching information work using metagaming as a conceptual lens does also turn attention to what *implications metagaming has to information work, its parameters and underpinnings*. In this sense, thinking metagaming forces to nuance the understanding of the multiplicity of literacies required in information

work. When studying the popular multiplayer tactical first-person shooter video game Counter Strike, Elisavet Kiourti (2022) observed that players of the game live through "a cycle of layering literacies in order to evolve their metagaming" (p. 10). Considering its complexities, thriving in information work and competent metagaming to make it successful "requires fluid forms of optimal or unexpected tactics and strategies during game play that go beyond the rules of the game [..] by using pre-existing, current, and new knowledge from past game plays, as well knowledge and information from online and offline literacy practices." (Kiourti 2022, p. 1). As a conceptual lense, metagaming pushes towards considering the multitude of informational and other forms of literacies involved in successful gameplay of both information work and different ways how to metagame it. Here some of the key questions to ask could be what characterises the different literacies in place, where are the boundaries between being literate, non-literate and illiterate (Huvila 2018a) according to different games and metagames, how the (il-)literacies interact with each other—for example, health information literacy, health literacy and digital literacies in healthcare context—and how the (il-)literacies in gaming the game and its individual metagames align and go against with each other.

By the same token, the metagaming lens can be equally useful in unpacking the multiplicity of interlinked experiences related to information and information work. On one hand, different takes on metagaming undoubtedly signal something about how different actors experience information, informing and getting informed and act upon their experiences. Metagaming is a part of how information is engaged with, acted upon and related to. Therefore, the work of elaborating on the diverse metagames people engage in, their premises, and outcomes, it is possible to nuance the understanding of diverse information experiences using metagaming as a phenomenographic lens to unpack different ways of how people experience, or think about information (cf. Bruce et al. 2014), and in a phenomenological sense, as means of turning attention to particular types of meta-human-information interactions when they are developing and taking place (Gorichanaz 2020). Further, building on the three maxims of information experience (Gorichanaz 2020, p. 10-11), in the latter sense it also emerges as means to avoid thinking too narrowly on what is information by broadening and

nuancing the understanding of what really is informative in the patchwork of games and metagames. Similarly, it emphasises how information is not *a* process but rather than that the informativeness unfolds as a result of intertwining of multiple games and metagames i.e. process*es*, and how this mishmash of information work*s* is much broader, more convoluted and importantly intricately layered than could perhaps be expected.

In addition, thinking about information work related second-order activities from the perspective of metagames calls to reflect upon the rationalities and meaningfulness of informational doings. A rapidly growing corpus of information behaviour research has drawn attention to the limits of conceptualising information interactions from the perspective of classical rationalism. The antecedents of how people choose to engage with information have been increasingly traced back to such factors as emotions (Nahl and Bilal 2007; Savolainen 2014), satisficing (Warwick et al. 2009; Floegel and Costello 2019), bounded rationality (Connaway, Dickey and Radford 2011), diverse social factors (Talja, Tuominen and Savolainen 2005), behavioural economics (Huvila 2012), and meaningfulness (Kizhakkethil 2021; Huttunen and Kortelainen 2021) to name a few. An apparent advantage of discussing rationalities in terms of metagames and metagaming is that rather than assuming that certain rationalities and perceptions of meaningfulness are universal, they become attached to different games, their rules and dominant narratives. In such terms, for example, the metagame of 'problematic sharing' of information or knowledge (cf. e.g., Alftberg 2020) is problematic only in relation to a specific game and its rules. The same applies to attractive and preferable choices. Desirability and usefulness are determined in relation to a particular game and the presence of metagaming marks the existence of alternative games with the competing preferences or rationalities. As Johnson (2014) importantly reminds, even the predominant information discourse typically emphasises the importance of active information acquisition, seeking information does not always make sense at all. Whether it indeed is desirable depends on whether the game played is one that stresses active seeking, or one of the other countless games out there.

Finally, besides potentially calling into question typical assumptions of what is information work and what are its rationalities, a closer look at metagames also direct attentions to the entire ecology of things that participate in informational undertakings. Here especially the empirical research on various types of information behaviour related anomalies and second-order activities calls into question of what is understood as an information system and what is actually being metagamed. Examples of practices in the literature that can be described in terms of metagaming often refer to unorthodox things that partly qualify as information systems and partly as devices that contribute to that information interactions eventually take place as mediating and scaffolding social and material technologies. Such technical technologies include water coolers (Fayard and Weeks 2007), coffee machines (Bialski and Bachmann 2019) and coffee rooms, copying-machines and copying-machine rooms (Pilerot 2016; Fayard and Weeks 2007), and corresponding social technologies like coffee breaks (Pilerot 2016). Besides directing attention to second-order tools and technologies and their importance for the success of both sanctioned and parallel non-sanctioned information work games, a closer look at second-order activities does also highlight metagaming as tool negotiation. Similarly to how a description of game probably includes only a part, if any, of the complexity of informational doings, an explicit look at metagaming and its adjoining ecology of things is necessary to understand the disconnects and affinities of the latter to playing the game and the metagame alike. Sometimes negotiating the role of technologies (Axel 1997) playing the game requires a lot of metagaming, negotiation, misuse and gaming of sanctioned technologies and use of unorthodox ones. This is, however, not necessarily a sign of a failure of the sanctioned technologies, not least from the combined standpoint of the game-metagame horizon. From this perspective, attempts to hinder people to metagame information work through the introduction of restrictive technologies (cf. e.g. Lemieux 2022) and limit the use of unorthodox tools can be directly harmful. Even more often the perfecting of tools and information is costly (Schymik et al. 2015) to an extent that exceeds the cost of embracing metagaming as a part of making information work to work.

# 7. Conclusions and implications

As noted in the beginning, the purpose of this text has been to revisit metagaming and metagames as a pair of conceptual lenses to inquire into the relations of layered first and second order information activities that are extending and/or at odds with each other.

In addition to providing a conceptual resource to express what associations between layered interlinked information activities, nuance the picture of their mutual relations as separately and simultaneously diversely conformant and non-conformant to each other, and to articulate various specifics of information work through analogies and conceptual (dis)similarities with gameplay (Huvila 2013d), the present text has elaborated its potential to direct attention and inquire into what is metagamed in a metagame, and what is constituent of information if compared with games and gaming. In addition, it is posited that metagaming offers a perspective that is more inclusive and less evaluative of off-script activities than many of the obvious and frequently used related concepts.

Rather than merely saying that there are associations between informational doings, the notions of metagames and metagaming establish an information-work-related-to-information-work relation between game and metagame (information work) and gaming and metagaming (information working). As discussed in this text, the relation can be that of resisting, repairing or extending the activity that is metagamed—but conceivably also something else.

In parallel, while the half-explicit premise of much of the present text has been rather to approach the notion of metagaming as an analogy and an aide-réflexion to elucidate and provide new perspectives to information work, it is important to emphasise that it can also be acted upon as a substantial concept. While (re)thinking the propositions discussed here, a more useful perspective than to assume either or is to approach them in parallel from the both directions.

Through these small openings, the notion of metagaming is not obviously up to solving any of the well-known points of criticism in information behaviour research alone. However, what it might do is to provide a lens to a more systematic theoretical and empirical elaboration of some of the contextualities and linkages between informational doings, of striking between totalities and

particularities, and developing a more nuanced vocabulary to address the perceived goods and bads of information interactions.

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