

THE DRONE TOURIST GAZE: INVESTIGATING LANDSCAPES AND SELF-REPRESENTATION

O OLHAR TURÍSTICO DRONE: INVESTIGANDO PAISAGENS E
AUTORREPRESENTAÇÃO

LA MIRADA TURÍSTICA DRON: INVESTIGANDO PAISAJES Y AUTORREPRESENTACIÓN

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Abstract: The technology of drones introduces new imagery into the contemporary tourist experience. This research aimed to explore the relationship between the landscape and the self-presentation of photographers, mediated through the drone gaze, specifically dronies (selfies with drones). This paper is conceptual and empirical and adopts a predominantly exploratory and qualitative approach. The corpus comprised the universe of photographs on the specialized website Skypixel with the hashtag #dronies and their respective metadata. Not surprisingly, as for landscape features, the most common environment is the countryside. This study analyses tourist photographs inspired by Roland Barthes' semiotic theory. The relay (relais) between photography and caption predominates. Studium is more common than pungent imagery; the former may reveal the intentionality of the photographer in rendering landscapes a spectacle. The analysis of emotions also points to positive feelings among the viewers. In dronies occur a juxtaposition between tourists' self-representation and landscape features, in whose interstice concept of the drone gaze emerges. This gaze is a proposal of ours. Although resulting from a combination of previous theorizations, such a gaze is distinct by including mobility and online sharing as relevant factors from its inception. We can also observe both ruptures and continuities with conventional selfies.

Keywords: drones; selfies; photography; tourist gaze; touristscapes.

Resumo: A tecnologia dos drones introduz novas imagens na experiência turística contemporânea. Esta pesquisa teve como objetivo explorar a relação entre a paisagem e a autorrepresentação dos fotógrafos, mediada pelo olhar drone, especificamente as dronies (selfies com drones). Este artigo é conceitual e empírico, adotando uma abordagem predominantemente exploratória e qualitativa. O corpus compreendeu o universo de fotografias no site especializado Skypixel com a hashtag #dronies e seus respectivos metadados. Não é de surpreender que, em termos de características da paisagem, o ambiente mais comum seja o campo. Este estudo analisa fotografias turísticas inspirando-se nas teorias semióticas de Roland Barthes. O revezamento entre fotografia e legenda predomina. O studium é mais comum do que imagens pungentes; o primeiro pode revelar a intencionalidade do fotógrafo em tornar as paisagens um espetáculo.

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A análise de emoções também aponta para sentimentos positivos entre os espectadores. Nas dronies ocorre uma justaposição entre a autorrepresentação dos turistas e as características da paisagem, no interstício do qual emerge o conceito de olhar drone. Esse olhar é uma proposta nossa. Embora resultante de uma combinação de teorizações anteriores, tal olhar é distinto por incluir mobilidade e compartilhamento online como fatores relevantes desde o início. Também podemos observar tanto rupturas quanto continuidades com selfies convencionais.

Palavras-chave: drones; selfies; fotografia; olhar do turista; paisagens turísticas.

Resumen: La tecnología de los drones introduce nuevas imágenes en la experiencia turística contemporánea. Esta investigación tuvo como objetivo explorar la relación entre el paisaje y la autopresentación de los fotógrafos, mediada a través de la mirada drone, específicamente las dronies (selfies con drones). El artículo es conceptual y empírico, y adopta un enfoque predominantemente exploratorio y cualitativo. El corpus comprendió el universo de fotografías en el sitio web especializado Skypixel con la hashtag #dronies y sus respectivos metadatos. No sorprendentemente, en cuanto a las características del paisaje, el entorno más común es el campo. Este estudio analiza fotografías turísticas inspirándose en la teoría semiótica de Roland Barthes. El relieve (relais) entre la fotografía y la leyenda predomina. El studium es más común que las imágenes punzantes; el primero puede revelar la intencionalidad del fotógrafo en hacer de los paisajes un espectáculo. El análisis de las emociones también señala sentimientos positivos entre los espectadores. En las dronies ocurre una yuxtaposición entre la autopresentación de los turistas y las características del paisaje, en cuyo intersticio emerge el concepto de la mirada drone. Esta mirada es una propuesta nuestra. Aunque resultante de una combinación de teorizaciones previas, tal mirada es distinta por incluir la movilidad y el compartición en línea como factores relevantes desde su inicio. También podemos observar tanto rupturas como continuidades con las selfies convencionales.

Palabras Clave: drones; selfies; fotografía; mirada del turista; paisajes turísticos.

INTRODUCTION

Landscapes are powerful representations of nature, although cultural and urban features also populate the tourist imagination. Especially relevant to outdoor recreation and tourism, landscapes constitute the visual imagery and intangible allure of many destinations worldwide. However, when studying the geography of tourism, the concept of landscape alone does not seem to fully capture the significance of in-situ tourist experiences. It is necessary to incorporate ideas of tourist practices and performances to obtain a more comprehensive understanding. Digital photographs, which circulate prominently on social media, serve as vehicles through which established destinations as well as potential tourist destinations become known and desired, influencing purchasing decision-making processes.

We assume that tourists consume landscapes during their travels (Scarles, 2014), and as a result, “[...] the relationship between tourism and landscape is irrevocable, uncontested, and even essential to tourism” (Terkentli, 2014, p. 282). “Landscape studies and tourism studies are two central fields of investigation defining and understanding contemporary places and mobilities.” (Meneghello, 2021, p. 1). Drones appear to accelerate this process by providing images from unique and seductive points-of-view. The contemporary use of drones generates landscapes and perspectives that extend beyond ordinary human vision (O’Hagan & Serafineli, 2023).

Tussyadiah (2020, p. 5) asserted, “The last decade has witnessed tremendous progress in self-driving vehicles and autonomous mobility systems, such as people-moving pods and drones.”. According to Myah (2020, p. 7), “consumer drones emerged as a component of our increasingly digital lives [...] crucial lifestyle accessory of that mobile ecosystem”. Drawing from both static and moving imagery, drones stand out as some of the most notable objects when depicting the most significant and recent technological advancements, whether in tourism or other industries.

Unmanned aerial vehicles (UAVs) are becoming increasingly convenient, lightweight, and manageable and their cost-effectiveness is growing (Chen et al., 2020). Miniaturization is on the rise (Jablonowski, 2017). These devices perform non-routine tasks in tourism with varying degrees of autonomy (Zeng et al., 2020). However, they embody paradoxes that are difficult to reconcile. Drones can be employed as weapons or tools of war, yet they can also serve in rescue and humanitarian missions. In the realm of tourism, drones are often viewed with optimism, although they raise ethical questions concerning

privacy and safety. “Consequently, drones have become symbolic of a range of societal aspirations and anxieties about technology [...]” (Myah, 2020, p. 3). Drones support multiple data types and can generate videos and photographs (Stankov et al., 2019). Ultimately, “drones democratised aerial photography” (idem, p. 68), “which has its roots in the expansion of digital cameras, camera-enabled mobile phones” (idem, p. 70). This innovation fosters the advancement of studies in visual culture (O’Hagan & Serafinelli, 2023).

UAVs are part of various apparatuses and technologies that currently signify advancements in tourism (Sigala, 2018). In the process of incorporating information technologies into tourism, drones are a product of the acceleration era (2007-2016), which was based on knowledge (2007-2016), a phase preceded by the initial era of digitization – 1997-2006 (Xiang, 2018). They are increasingly prevalent in tourism as “travel has become a major reason for individuals to purchase drones [...]” (Jiang & Lyu, 2022, p. 5), and they also have become relevant sources of information for understanding the sense of places and the behavior of tourists (Vujičić et al., 2022). But it is necessary to highlight current UAV technical limitations. They may include factors such as limited battery life, weather conditions affecting flight stability, and regulatory restrictions on airspace usage. The limitations also encompass flight time, flight conditions, visual contact, and regulatory limitations, such as no-fly zones, security, or flying over densely populated or occupied areas (Stankov et al., 2019). Excessive noise can irritate some tourists, influencing perceived risk and ultimately impacting the intention to recommend the destination (Jiang & Lyu, 2022).

Nevertheless, drone studies in tourism need to be consolidated (Sevilla-Sevilla et al., 2023). Despite their increasing technological acceptance, recreational drones and their respective images have yet to be among the most studied topics (Merkert & Bushell, 2020). In this sense, “little attention has been given to vertical images produced by drone hobbyists and their role in sense-making processes, geographical imaginations, and everyday life experiences.” (O’Hagan & Serafinelli, 2023, p. 1). New studies on drones that cover multiple destinations are needed (Stankov et al., 2019). Thus, a relative delay in publications about drones in tourism journals is noted compared to other areas (Sevilla-Sevilla et al., 2023). In Brazil and ibero-America, for instance, the database *Publicações de Turismo* (2024) does not return any results containing the term ‘drones’. Among the most studied topics in the relationship between drones and tourism, the tourist experience is the least frequent (Sevilla-Sevilla et al., 2023).

The dronie (selfies with drones) are among the four main aesthetic-visual functions of the top-down view operated by drones (O’Hagan & Serafinelli, 2023). “The dronie is characterized by the act of making a self-portrait – either as a film or as a photograph [...]” (Myah, 2020, p. 71). Right after the upsurge of the selfie, the term dronie was popularized as a separate use of drones to create this new kind of self-portrait (Jablonowski, 2017). Works on dronies in other areas are conceptual, and as scholars we still need to conduct exploratory empirical research to substantiate our initial propositions (see Jablonowski, 2017).

Although dronies in practice are created in travel, vacation, and leisure scenarios, this paper is one of the first systematic studies on the subject in tourism literature, highlighting its current and innovative nature. Additionally, despite being specialized in drones, the images on the Skypixel website have only recently received substantial attention from researchers in the field (see Chen et al., 2020). With that said, the article embraces two dense constructs, which interact in the contemporary tourist experience, namely, the geographic notion of landscape and the media notion of self-photography, through a recent technology, the drone, generating a new visual and social practice. Collectively, these constructs are rarely evoked conjointly (for instance, Smith, 2019). To address these gaps, this study aims to explore the relationship between landscapes and the self-presentation of photographers, mediated by the “drone gaze”, a term coined here. I chose to focus on photographs – available on Skypixel, with the hashtag #dronie –, as systematic research on drone photography from a tourism perspective has been limited to date (see Chen et al., 2020).

I carried this paper out within the cultural geographies of tourism (Crang, 2014), and analyzed the data by applying the Semiotics of the French Roland Barthes (1915-1980), renowned for his research and critique of advertising, journalistic, and artistic photography. I chose this Barthesian methodology due to his substantial legacy in the critical analysis of images, at first, from a structuralist perspective. For the author, the sign’s structure is anchored in the signifier-signified dyad, a legacy from Ferdinand de Saussure (1867-1913), a founder of Semiology in Western Europe, who based his studies on the symbolic language functioning (Chandler, 2003).

Nöth (1995) analyses Roland Barthes’ contribution to photography theory. According to the former, Barthes, in different

pieces, has conceived photographs as analogous to reality, or messages without a code. However, Nöth (1995) warns that such objectivity or analogy relates to photography as a denotative message. Roland Barthes claimed that press photography had a connotative message, due to several factors, such as professional, aesthetic, and ideological codes (see Nöth, 1995). Her paradox then consisted of messages with code (denotative level) and without code – connotative (Nöth, 1995). In times of influence marketing, dominated by influencer posts, language, and aesthetics, tend to blur the boundaries between professionals and amateurs. It is then timely to question how to frame these emergent practices in terms of the analogic or subjective relationship between photographs and reality if we follow Barthes' propositions.

Fontanari (2016) explains that the term *studium* stems from the Latin verb *studare*, a study of the world, whereas *punctum* comes from the verb *pungere*, that is, "pierce"; connotatively refers to what is pungent, that cuts, hurts, sensitizes, pins, and amortizes. Consequently, *studium* derives from a general interest, where the photo pleases or displeases under an agreement between creator and consumer, more evidently revealing the photographer's intention (Barthes, 2017). On the other hand, *punctum* is a detail that can pierce us, which is not necessarily influenced by good taste, rather belonging to the realm of the unnamable (Barthes, 2017).

Fontanari (2016) discusses the main differences between these two Barthesian ways of operating and perceiving photography.

The concept of *punctum* arises from the image itself, rendering it transparent to the gaze. It refers, in this way, to something that silences and fascinates the body; it is the field of the unspeakable in the image: that which silences in the soul of the observer because the gaze is unable to capture it. It merely skims over this surface, for the *punctum* presents itself in the blind field of the image. It is no longer the intellect that responds, but the body that reacts to what is presented to it (p. 151, translated).

As a scholar who asserted that language is a major system functioning as a structure or a framing for reality (Nöth, 1995), Roland Barthes in his early writings assumed that written text was needed to determine meaning. He aimed to indicate the text-image relationship through the concepts of anchorage or relay (Barthes, 1986, 2017). Anchorage relates to control, carrying responsibility for using the message in light of the projecting power of images (Barthes, 1986). It has a declarative and directive character (Nöth, 1995). In the case of relay (*relais*), written text enters into a relationship with the image (see Nöth, 1995). Sontag (2004) in turn considers that captioning can exaggerate visual data, at times limiting interpretations of an image.

Barthes' theory of photography is also based on the idea of myths, a secondary semiotic system, a metalinguistic structure grounded in a discourse limited by how it is spoken (Barthes, 2013). Mythical speech in tourism is identified as an attempt to perpetuate bourgeois discourse, although certain social agents deny such a stance (Conceição, 2018). In this sense, it is necessary to deepen the understanding of tourism through semiotic/semiological analysis, since tourism is formed by discourse and signification (Conceição, 2018).

LITERATURE REVIEW

Landscapes and Tourism

Identifying something as a landscape requires social and individual learning (Berleant, 2012). Observing the landscape not only provides glimpses of space; elements of landscape shape and influence social and spatial practices, as well as the environments we inhabit (Cosgrove, 2008). Landscape involves complex relationships between seeing, representing, and imagining the world by creating and projecting mental images (Cosgrove, 2008). It is one of the few modern concepts that are both an object and a signifier of something, or even a portion of the territory and its imagistic representation (Minca, 2007). By limiting landscape to an uninhabited space and a single perspective, tourism takes the process as its final product (Minca, 2007). In tourism practices, the landscape mystifies the collective experience (Urry & Larsen, 2011).

Among all possible conceptions of landscapes, we address it as a meaningful way of composing and harmonizing the external world into scenes or visual units (see Cosgrove, 1989). More contemporarily, scholars argue that the idea of the landscape as way of seeing can be complemented with the idea of the landscape as a stage (Wylie, 2007) since contemplating a view not always implies passively looking at a spatial object (see Urry & Larsen, 2011). Thus, one can note that the idea of landscape has expanded over centuries, now encompassing aesthetic and environmental preservation notions (Cosgrove, 2002; Wylie, 2007). New sensitivities result in new ways for tourists to perceive the landscape (Löfgren, 1999). Thus, dominant ideas about landscape and nature have partly defined tourist practices (Crouch, 2006), weaving and reconstituting social-nature relationships (Cartier, 2004).

Given its potency and multiplicity, it is unsurprising that the idea of landscape has also influenced tourism research (see Terkenli, 2004). Thus, the conception of landscapes in tourism evolves in parallel with general landscape studies (Knudsen et al., 2012). More broadly, tourism and landscape studies receive contributions from various disciplines, sometimes resulting in sectorial articles, at times devoid of analytical coherence (Meneghello, 2021).

A touristscape will always have an inherent cultural dimension (Knudsen et al., 2012). The transformation of the cultural landscape into a touristscape – if it is possible to discern – suggests a physical and symbolic reordering of the former (Prince, 2019). Recently, researchers have advocated a more subjective, relational, and negotiated notion of touristscape, challenging the hegemony of vision (Prince, 2019), as there is no predefined touristscape (Knudsen et al., 2012). While no terminology consensus is observed, the term has been the most accepted and least ambiguous since the 2010s (Meneghello, 2021). In academic literature, the term *touristed landscape* (see Cartier, 2004) or *touristic landscape* sometimes carries a pejorative connotation (Meneghello, 2021).

One focus in touristscape studies has been the axis represented by the space-society-symbol relationship, which treats the landscape not only as a backdrop but also as a place to be experienced in a situated, real, virtual, or imagined manner based on notions like media, meaning, and representation (Meneghello, 2021).

New possibilities for tourist experience are reached when encountering landscapes, letting oneself be seduced by the place (Cartier, 2004). Seduction acts as a substitute for deliberate deception (Cartier, 2004). Understanding the meanings of this touristscape experience also depends on assumed subject positions (Cartier, 2004). Landscape can be deemed as a privileged way of flirting between subject and space or as an expressive poetics, establishing a relationship between situated and mobile representations and practices (Crouch, 2010). Landscape is what mediates the tourist's experience with otherness (MacCannell, 2011).

Nevertheless, the canons used to value a landscape aesthetically positively are the same as those used for valuing a historical landscape painting (Minca, 2007), and today, this role is exerted and emphasized by advertising and the mechanization of vision (see Cosgrove, 2008), including social media and visual mobile technologies, such as drones.

Researching aesthetic categories underlying landscape photographic representation through its core features and the correspondent tourist mobile practices is worth undertaking (Kunz & Castrogiovanni, 2020). Thus, today's research must also concern what tourists do when seeking a landscape experience (Minca, 2007).

Part of the regime of the extraordinary at times and the mundane at others (Edensor, 2007), landscapes have become commodities through tourism, among other factors, due to the increasing process of capitalization present on social media (Smith, 2019), which partly transforms the tourist gaze.

The tourist gaze and its main transformations

Photographing is an extension that projects the tourist gaze onto a destination (Dinholt & Gretzel, 2016). Originally conceptual, Urry's seminal work (1999), one of the critical theories in tourism, has been ostensibly put into question, but also tested, and expanded upon (see MacCannell, 2001; Schwarz, 2021; Çilkin & Çizel, 2022).

However, scholars have been maintaining some essential assumptions over the past decades. Seeing is what the human eye does, while gazing refers to discursive determinations of the socially constructed sight (Larsen & Urry, 2011). The tourist gaze encompasses learned visual practices and technologies, signs, places, and the use of cameras (Larsen & Urry, 2011). Moreover, individual gazes are influenced, permitted, or restricted by the presence of others' gazes (Urry & Larsen, 2011).

Similarities between the paradigms of gaze and performance were subsequently recognized (Larsen & Urry, 2011; Sama-

rathunga & Cheng, 2021). The gaze must be historically learned, not naturally occurring (Löfgren, 1999). The romantic gaze is characterized by solitary visualization, immersion, and admiration, involving the attribution of an aura to the landscape (Urry, 1999[1989]). On the other hand, the collective gaze is a group activity based on a series of shared encounters (Urry, 1999), both in situ and online. Generally, the predominant tourist gaze is Western, reminiscing from the Renaissance, operated by subjects who grant themselves superiority and primacy in their sight (MacCannell, 2001).

To some extent, the tourist gaze domesticates landscapes, making them familiar and easily accessible (Vannini & Stewart, 2017), thereby reducing the body/materiality to the surface. So, they are deemed a superficial human sense (Urry, 2000). "The sense that is actively engaged is narrowed down to sight through the camera lens or mobile screen, while other senses become hampered" (Lee et al., 2022, p. 5). Tourist sites and experiences are more than just visual (Edensor, 2018). However, smartphones and social media platforms are visual-centric (Dinholt & Gretzel, 2016). Furthermore, with the advent of digital culture, it is imperative to revisit the conceptualization of the tourist gaze as information and communication technologies (ICTs) shape and facilitate it (Dinholt & Gretzel, 2016; Schwarz, 2021).

Moreover, the shared gaze is currently noted. More complex to define, the shared gaze concerns transmitting experiences, evoking reactions and engagement, and maintaining online presence (see Lee et al., 2023). For this purpose, a careful and selective curation of the photographs to be edited and posted is needed (Lee et al., 2023). This mediated gaze occurs when tourists travel to look at themselves in front of other people and places (see Dinholt & Gretzel, 2016), representing an extended theoretical approach encompassing the selfie gaze (Canavan, 2020), a specific genre of tourist digital photography. Through the selfie, tourists become objects of self-directed or mirrored gaze, where the extraordinary is invested in themselves (Dinholt & Gretzel, 2016) rather than necessarily focused on otherness, people, or places. Recently, the celebrity culture has come to mediate the tourist gaze, leading tourists to travel to be seen by places and people while performing (Canavan, 2020), which is accompanied by the specific aesthetic code of the Instagaze (Oh, 2022).

The aeromobile gaze, in turn, intertwines the aerial device, flight route, destination (Rink, 2017), and subjects. "The aeromobile tourist gaze thus spectacularizes the destination and disrupts the relationship between tourists and place" (Rink, 2017, p. 2). The viewpoint unfolds power relations between the observer and the seen/observed, involving a bird's-eye view (Urry, 2000), ensured by spatial distances and the relative separation of eyes and minds (Cosgrove, 2002).

The e-mediated gaze (Robinson, 2014), the GoPro gaze (Vannini & Stewart, 2017), and the aeromobile gaze (Rink, 2017) form a fourth branch of studies (Samarathunga & Cheng, 2021), the most recent one, building on the foundational studies of the tourist gaze (Urry, 1999), which, in turn, draw from Michel Foucault's (1926-1984) gaze of power. It is noteworthy that the tourist gaze itself is in motion (Larsen, 2014), with constant renewals in the understanding of the gaze sought by tourists and how this gaze mediates tourists' experiences with places and fellow travelers, now calling for the development of the drone gaze, perhaps belonging to the same fourth branch (see Samarathunga & Cheng, 2021).

Dronies and the tourist experience

How do tourists negotiate the intricate relationship between dominant/official tourist narratives and their own material and visual experiences of certain landscapes? (Minca, 2007). Tourist experiences emerge from the geographical consciousness (Li, 2000). Nonetheless, during their mobilities, people phenomenally experience the world, previously to reflection and consciousness (Adey, 2010). Tourist experiences may be addressed as meaningful practices (see Kunz & Castrigovanni, 2022). Movements and choreographies provide experiences that might not gain meaning outside the world of sensations (Adey, 2010). The representation of an experience, through a photograph, for instance, records a reduced part of the complex dimensions of such an experience (Adey, 2010). Previously mere protocols of an experience (Santaella & Nöth, 2011), drone photo shoot is also part of the experience per se. Moreover, digital platforms now facilitate the recording and instant sharing of tourist experiences at attractions and destinations, serving not only as sources of information (Munar & Jacobsen, 2014). Visitors capture enticing photos through drone piloting, thus amplifying the media ecosystem involving tourist imagery.

Drones and other correlated machinery evoke how we think about ourselves; at the same time, they provide narratives about how these devices become us (Hildebrand, 2019). Dronies are one of the possible interests and one of the media

products of the intensive use of drones in the tourist experience, and “they actively constitute a self in a distinct social, technological and media setting.” (Jablonowski, 2017, p. 99). “The dronie explicitly wants its image practices be judged in an aesthetic register.” (Jablonowski, 2017, p. 100). The genesis of the aesthetics of the dronies lies in combining the languages of selfies and aerial images, corresponding to acts of self-representation (Jablonowski, 2017).

Unlike Jablonowski (2017), Myah (2020) does not restrict the dronies to videography but raises the possibility that they could also be photographs. The author (Myah, 2020, p. 71) also explains how dronies are operated and what the expected result is:

[...] the drone flies away from the subject to capture their shot. They often begin with an initial, static shot, located close to the subject, followed by a fast and lengthy zoom away, revealing a panoramic perspective of the subject's setting. Alternatively, a dronie may begin with a wide shot where the human subject is not even visible and then rapidly descend towards them [...].

Dronies thus act “as a subversive ‘look back’ of the surveilled” (Jablonowski, 2017, p. 103), “[...] thereby reversing the relationship between humans and their surroundings found in typical selfies.” (O'Hagan & Serafineli, 2023, p. 10). They accentuate the physical space instead of people in that same physical space (idem), and in this sense, “[...] the drone camera is not interested in the people themselves, but rather how their framing adds to the general panorama of the image and evokes a certain mood.” (idem, p. 11). Ultimately, Myah (2020, p. 72) defines the dronie maker as “[...] a skilled technologist, a creative practitioner, a socially engaged citizen, a thoughtful creator and a history maker.”

METHODOLOGY

Symbolic in nature, human beings strive to explain phenomena in front of them, including visual ones and, for that reason, Semiotics aids interpretative processes (Guissoni et al., 2023). In the tourism realm, photographs contribute to evolving modes of representing and documenting what is within the eyes' reach and beyond (Guissoni et al., 2023). One of the types of user-generated content, photographs found on the web serve as a key data sources in tourism research (Balomenou & Garrod, 2019). Compared to images produced by professionals for promotional purposes, images taken by real travelers carry greater social significance in sharing (Tussyadiah & Fesenmaier, 2009).

Descriptive statistics of metadata of posts were displayed and analyzed. However, the predominant research approach is qualitative, involving visual and textual content analysis, followed by semiotic interpretation. Content analysis has become a promising element of semiotic analysis, commonly employed in investigating tourism photographs. Studies analyzing the content and semiotics of selfies, for instance, offer valuable contributions (see Elshaer, 2022; Siegel et al., 2023).

Given the established goal – to explore the relationship between landscape and self-presentation of photographers, mediated through the drone gaze – we utilized the universe of photos posted on the drone users' repository and social network, Skypixel. In such a task, we employed the hashtag #dronies, resulting in 478 total posted images. We downloaded all photos were downloaded, and manually copied their respective metadata due to restrictions on web scraping by websites and social media platforms. This would automate the data and metadata collection process. Among these metadata, we obtained date of publication, title, caption, location, and comments. We represented data from titles, captions, and comments through word clouds (using Wordart). A significant portion of the posts reveals the location where the photos were taken, making possible the creation of an intensity map with countries covered by this photographic dronie perspective, through DataWrapper website.

Images are challenging to analyze and interpret because, according to Barthes (1986), they constitute a center of resistance to meaning. As such, we resorted to coding the content of the photos through machine learning – using the Python programming language and the integrated development environment, PyCharm. Machine learning is already a standard procedure to extract attributes from tourist photos in a scalable manner (Li et al., 2023). We employed this technique to classify photos based on the types of depicted landscapes, resulting in four categories of photographed environments. We validated the categories as they appeared to be exhaustive, mutually exclusive, clarifying, and unambiguous (see Rose, 2001). In comparison to previous manual coding-based research (see Kunz & Castrogiovanni, 2020), automatic categorization may lessen possible bias and also offer a more efficient and comprehensive analysis.

Similarly, artificial intelligence detected the presence of individuals and the quantity (few/many). The effectiveness of the automated mechanism was 73.6% for landscape type classification and 55.2% for the occurrence of people and group size. To exemplify the analysis, I selected four photos and their respective metadata to be displayed in the paper. These photos do not allow face identification. I point the source and credits below such photos.

We performed the studium/punctum analysis of the photos’ functioning and intentionality following Barthes’ semiotic tradition (1986, 2017). We carried this step out manually, as coding this conceptual and abstract category is not feasible. First, I conducted a floating reading of the images and then a round of labeling each image. Then I juxtaposed the content of the photos with the word cloud of titles and captions, aiming to indicate predominant the text-image relationship through the concepts of anchorage or relay, as conceptualized by Barthes (1986, 2017).

RESULTS

Table 1 displays the mean and standard deviation data for four indicators of the analyzed posts: time since posting (in months), number of views, number of likes, and number of comments.

Table 1. Metadata Indicators of Posts

Indicator	Mean	Standard deviation
Months since posting	68,89	26,52
Views	345,69	1138,98
Likes	13,06	63,66
Comments	0,42	1,83

Source: Author’s compilation, based on Skypixel data.

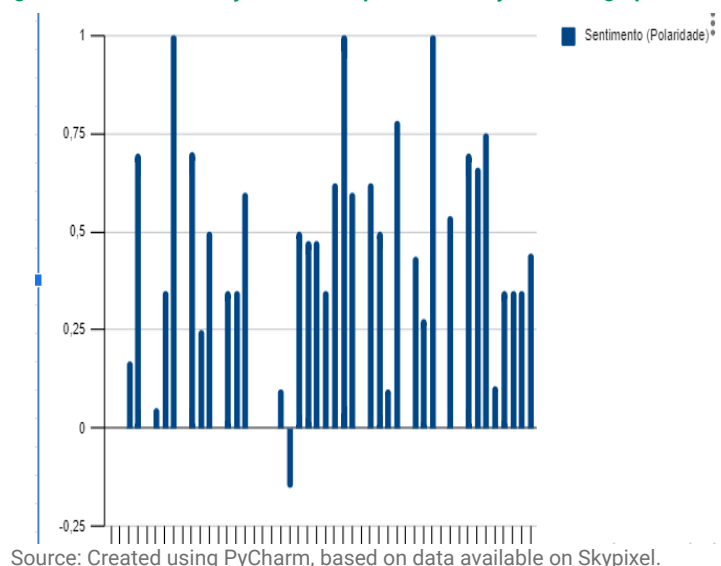
This dataset provides an overview of post metadata characteristics and, in particular, offers an insight into the level of engagement with these posted images. The standard deviation in the number of views across postings is substantial, suggesting that some dronie posts have a significant impact, while others are less well-known. Unlike other conventional image-centric social media platforms (such as Instagram), Skypixel posts still exhibit limited engagement, with potential for expansion.

Figures 1 to 4 present word clouds describing the incidence of terms in titles, captions, tags, and comments, respectively. For better visualization, articles and prepositions were removed, and nouns and adjectives were prioritized instead.

[illegible][illegible]

In Figure 2, there is a greater profusion of words. In addition to “dronie”, “selfie” appears, in a kind of analogy with the founding practice of selfies. Terms related to equipment are privileged, such as “drone”, “aerial”, “DJI”, “Mavic”, and “Phantom”. In other terms, the technical dimension plays a significant role. Regarding environments, terms like “river”, “place”, “mountain”, “volcano”, “lake”, “bridge” among others, are described.

Figure 5. Sentiment Analysis of the Captions of Analyzed Photographs.

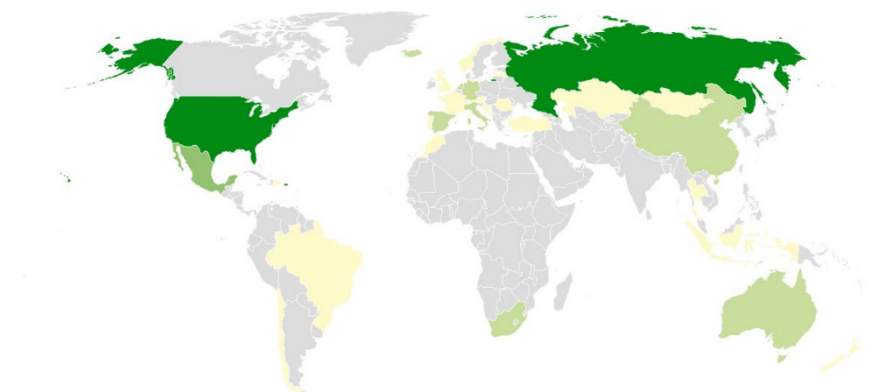


The map in Figure 6 depicts the intensity of the distribution of drone photographs taken and posted by countries, based on posts that indicated their location.

Figure 6. World map showing the distribution of dronies

Geotags

< 5 5-10 10-15 15-20 ≥ 20



Created with Datawrapper

Source: Created by Datawrapper, based on data available on Skypixel.

Many of the posts indicate the location of the photograph. The map shows the concentration of posts in countries in the Northern Hemisphere, with some exceptions in Oceania. Highlights include the United States, Russia, Spain, Italy, France, China, and Australia, among others. There is a significant gap in the Middle East, Africa, and Latin America, with rare exceptions. This not only demonstrates less frequent ownership of drones by citizens of these countries but also the peripheral nature of many countries as travel destinations. There is also the hypothesis that the practice of dronies is less widespread in countries with fewer posts and travel protocols – as seen in the example of Japan and South Ko-

rea. In terms of scholar production, something similar occurs, as only 4% of research related to drones in tourism and hospitality is from South America, and 0% comes from the African continent, according to Sevilla-Sevilla et al. (2023).

The presence of humans in images provides rich information (Zhang & Hsu, 2023). The presence and amount of people were analyzed automatically. Out of 478 analyzed photos, 148 (approximately 31%) featured a single person, and 202 (around 42.3%) featured groups of people. This indicates that, contrary to what one might assume, the practice of dronies is not solitary but predominantly communal. Group selfies have previously been called “groupies” or “groufies” (Gretzel, 2017). Even if all the photos had the #dronies hashtag, 148 of them (around 26.7%) had no people in them, indicating a lack of consensus regarding the boundaries of dronie practice.

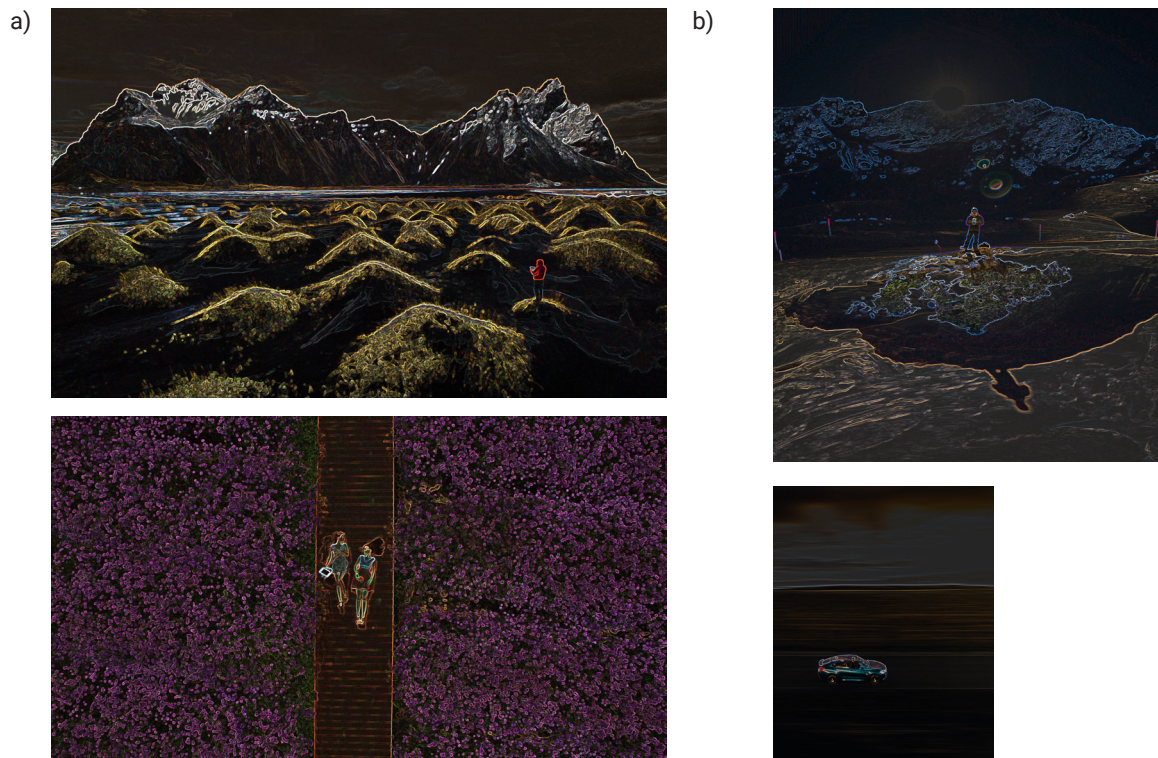
Additionally, the most recurrent environments in which dronies were taken were categorized. The most common environment for drone photos is the countryside, with 267 occurrences, followed by liquid water (96), the city (85), and finally, snow (84). It should be noted that the system assigned more than one label to some images. Snow is a frequent theme in the Northern Hemisphere, influenced by the climates of the countries located wherein and often intertwined with the imaginative allure associated with these destinations.

Landscape images both construct and reflect the geographical expression of individual or group identities (Cosgrove, 2008). Tourist destinations are environments where tourists can produce visual material of themselves (Dinholt & Gretzel, 2016), and this seems particularly true in the context of dronies.

While on Instagram only a small portion of posted photos exclusively feature the landscape, emphasizing the importance of self-presentation in the context of travel (Siegel et al., 2023), in the case of dronies posted on Skypixel, around 70% select and emphasize a central landscape setting.

We characterized the photos between the dominant schemes of studium (274) and punctum (204), recognizing that there are intermediate cases. Furthermore, we noted that punctum is more challenging to achieve outside of the perception schemes of photography as the primary intention of art.

Figure 7. Selected examples of predominant studium (a) and punctum (b) readings in the studied photographs



Sources: Adapted from Manish Mamtani, in December, 24th 2018, from Victoria Volchenko in July 8th 2016; Romeo Durscher, in April, 21th 2016; from Dmitry Balakirev in September 20th 2018. Retrieved from <https://m.skypixel.com/>, in March, 16th 2024.

Photos “a” record and present a version of experience studied to impress the target audience. Its value lies in the aesthetic objects depicted (mountain, lake, field), their composition and iconography. We can also note a definite relationship between the spectrum (people self-photographed) and their surroundings, which is typical in selfies and dronies. This relationship is validated by the audience as attractive, in a contract of communication that expresses commonalities in the positive judgment expected.

On the other hand, photos “b” strived to capture the right and perfect moment, which is less an intention or disposition of a photo’s author, and more a moment or a circumstance offered by the environment. To be transmitted to the audience, the operator has to be there and be insightful enough. However, the value of an artistic photo resides at the moment itself, manifested by the lapse of a photograph – i. e. the sunset, the running car. Motion can be felt in the pungent imagery selected. The details attach more than the full scenery. To be qualified as extraordinary, travel and leisure experiences need to be framed poignantly.

Also, there is a relationship of relay (relais) between the image and the caption only. In general, the captions, beyond their indexical function of pointing and signaling, do not provide information that could enrich the interpretation of the analyzed photographs. In other words, most photographers do not demonstrate mastery of professional advertising and artistic techniques, which have been subject to extensive analysis by Roland Barthes. Instead, they appear to be merely an effort to translate the photographed scene into written text, aiming to catalog the images for finding and grouping purposes. Most reactions conveyed in the comments suggest a significant and positive engagement of audiences in receiving these photographs resulting from techniques deemed as spectacular. The relative novelty and ‘wow’ effect of the technology and viewing angles it affords are transferred to the places and (self-) photographed individuals.

DISCUSSION

Drone imagery, like photography in general, create duplicated places, aesthetically more appealing than those seen through direct human vision (see Urry & Larsen, 2011). The drone gaze overall promotes photographs in which reality is re-presented in an idealized manner. The studied images create spatial fictions (see Urry & Larsen, 2011) and fictional characters from the subjects’ actions.

Visiting places through photography is almost as exciting as experiencing them in situ, increasingly blurring the stark separation between reality and its representation. In this situation, meaning becomes more visual and figurative (Urry & Larsen, 2011), to the point where it questions whether imaginative travel might detriment actual tourism mobility (Urry & Larsen, 2011). Dronies are records of moments of encounter with imagined landscapes, merging experience and documentation of them (see Vujičić et al., 2022). This condition is perhaps triggered by other drone images of fellow tourists (anticipation), marking the subject’s position within these landscapes and these new technologies.

If in the 19th and 20th centuries Kodak reconfigured the performances and meanings of tourism visibility through a network of photographic actors (Urry & Larsen, 2011), today we have drone brands, specialized social media (Skypixel), training courses, audiovisual production companies, equipment maintenance, accessories, and drone insurance. In a way, we might be witnessing a new chapter in the history of tourism visibility.

Dronies reverse the relationship between self and landscape, abstracting from the individual (see Jablonowski, 2017), which has always happened to some extent. Dronies emphasize the physical space over the people within that space (see O’Hagan & Serafineli, 2023), and this is highlighted through photography themes, especially the countryside, among outdoor environments suitable for drone filming. The city is no longer the most photographed subject due to technical limitations for flight, leading individuals to turn to the rural outskirts of cities and destinations. This movement can be seen as a return to romantic geographies, where individuals seek new environments (see Tuan, 2015), converging aesthetics, mobility, and social practices.

“Consumer drones have given users virtual access to restricted spaces and distant events, have afforded eye-opening and awe-inspiring views of the world.” (Hildebrand, 2019, p. 5). In a sense, the drone gaze transforms the romantic gaze upon landscapes into a collective gaze directed towards an online audience, as these images are meant to be shared.

Such a drone gaze is born as a shared gaze and as a gaze of travel and leisure. Desires and aspirations are shaped by what travelers see on social media (Taylor, 2020), including drone photos on Skypixel. Sharing drone photographs on this website invites co-performers to join the journey in real-time, motivating them for physical travel. For a long time, subjects were removed from the landscape in certain pictorial and geographic traditions; specifically in Romanticism, the subject was depicted contemplating the landscape. Some drones follow that way of seeing, others position the self in the foreground; there is no unified drone gaze, but multiple ways of taking that landscape around him/her. The drone gaze goes beyond the equipment (drone) and the observer (self), revealing itself as a complex assemblage between the subjects' bodies, materialities (natural environment, built environment), and immaterialities (internet networks, social media environment, learning).

Given the need for a relative unified tourist gaze, the evolution of studies is evident, accompanied by fragmented concepts (Samarathunga & Chen, 2021). The drone gaze is not only a way of looking but also a performance manifested physically and virtually from its origin. In drone photographs, one might notice the tentative spectacularization of places and simultaneously a self branding sense. The mediatization and the contemporary spectacle culture produce new societal relations and renewed models for the tourist experience (Moraes & Gândara, 2016), which seems exemplary in drone photographs overall. In drone photos overall, "[...] places and peoples are commodified in the pursuit of attention, the activity of travel itself banalized as another field of privileged labor in the global neoliberal marketplace." (Smith, 2019, p. 18).

The drone gaze resides in the interstice between landscape and self-representation. It is a gaze of the self and for the self, inviting other subjects, possibly distant in space and time, to have a clue of the on-site bodily encounter. In Barthes' terms (2017), the operator (photographer), is also a spectator (an audience of oneself), and simultaneously, the subject photographed, the spectrum, the "small simulacrum" (p. 15). This relationship, once clearly defined, tends to change and invert with the tourist gaze early formulations. The results are in line with recent research that characterizes the relationship between visitors and an urban icon (a part of the landscape) as a semiotic scenery, a situation in which the visitor tends to become the protagonist and occupy the foreground in visual-based social media (Guissoni et al., 2023). We ponder that drones are different from regular selfies in most cases, since the self does not occupy a relevant part of the screen, and are regularly only a point of departure of a video instead.

However, we observe a complicit relationship between self and landscape, where both are continually remade and re-signified. Landscape and self intertwine within the complex entirety of the tourist experience, in situ and cyberspace, partially suspending the strict division between these two environments. New vacationsapes are produced through the interaction of landscape elements, mentalities, mobility technologies, and representation (Löfgren, 1999). "Therefore, the interaction between people, things, and places remains important [...]" (Liu, 2022, p. 175) for drones.

CONCLUSION

For a long time sought after, the elevated position symbolized the power of nature in the face of human insignificance (Löfgren, 1999), and in the case of drones, this yearning combines with the desire to make oneself visible to both oneself and others, dominating the landscape while flirting with and being complicit in it.

The drone gaze emerges from combining previous formulations, such as the refined GoPro gaze (Vannini & Steward, 2017) and the aeromobile gaze (Rink, 2017). These gazes are associated with distinct performances in their form and content, highlighting the celebrityization of the self in tourism (see Canavan, 2020). Instead of addressing tourist performance in the singular, treating it in the plural as performances (Edensor, 2007). Drones contribute to the pluralization of tourism practices and performances through a relative recent technology although still under evolution.

Rather than making a strict distinction between recreational drones and those specifically related to tourism (i.e., in the context of travel), we start from the premise that, in some way, we are all tourists (MacCannell, 1999[1976]). The drone pilot, outdoors, becomes a tourist in terms of performance and visibility, albeit temporarily.

Through this research, tourism is reaffirmed as a relevant way to perceive and feel the world, wherever we may be whatever we may do (Franklin & Crang, 2001). “Tourism is a productive system that fuses discourse, materiality, and practice” (idem, p. 17). Advancing the understanding of phenomena associated with the drone gaze through comprehending assemblage theory, recently adopted in tourism studies (see Volo et al., 2023), is called for. It is also essential to improve the distribution of drones in the study and practice of tourism in under-represented countries.

We attempted to prioritize such theorization regarding tourism photography by drones to bring new reflections. We conducted an interpretation of photographic images, pointing to the ideological nature of the relationship between the image and its observer (see Rose, 2001). However, analyses of the aesthetic merit of drone photographs, whether dronies or not, deserve to be undertaken. Specific studies on ethnic, gender, and age biases in the ownership of recreational and travel drones can stem from this initial work. The explanation is that the drone community is not always cohesive (Jablonowski, 2017), necessitating a deeper study of user groups of recreational and non-recreational drones on social networks to deduce their habitus and ethos as communities.

We acknowledge some limitations that simultaneously constitute opportunities for new studies involving drone imagery in tourism. Skypixel features photos and videos, but we only analyzed photographs. Unfortunately, dronies, by definition, are not detailed enough to recognize the facial expressions of users (Jablonowski, 2017), and this could allow us to investigate tourist performances, while safeguarding the identification of individuals. Properly quantitative research with bulk data can be conducted by meeting the policies of each social media website regarding automated data and metadata collection. Interaction and reception were not studied here, even though photographs may include both the perceived image of destinations and, in some way, content creators’ projected image of destinations. We recommend netnography as a recent and ever-evolving technique to investigate how the drone gaze is stimulated among viewers. It is also necessary to delve into the territorial impacts of the drone gaze on destinations, primarily rural areas, which are the main targets of this gaze. Furthermore, the impact on the constitution and deconstruction of (self-) photographed subjects deserves further analysis.

As a managerial contribution, it is noted that for tourists to take their selfies while engaging in outdoor recreational activities (including dronies), they should be able to rent drones from park concessions or have access to this equipment through tour operators (King, 2014). Charging points for batteries and beginner workshops should also be available. Training tour guides to operate drones for their clients is also necessary. Regulations are required to minimize the impact on other tourists and residents. A remaining question is whether selfies can lead to fatal accidents in tourism, what about drones? This context arises from the fact that postmodern cultural forms are no longer consumed as contemplation but as a distraction (see Larsen & Urry, 2011). As another managerial recommendation, we agree with Taylor (2020), who advises tourism marketers to promote “selfie moments” (p. 64). “When shared online, photos turn tourists into co-marketers [...]” (Lee et al., 2022, p. 15), which can create positive narratives about destinations. Drone applications are yet to be discovered and implemented within tourism and recreation, as technology and society constantly evolve.

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AUTHOR'S CONTRIBUTION

Jaciel Gustavo Kunz: Conceptualization, literature review, data curation and analysis, funding obtainance, methodology, project administration, supervision, visualization, writing.

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