The Photographic Alliance of Great Britain

Standards & Governance Subcommittee

Executive Discussion Paper – October 2023   **Agenda 3.1D**

'Artificial Intelligence' in Photography with particular reference to the PAGB, its member Federations, their member Clubs and the members of those Clubs.

Summary

The phrase 'artificial intelligence' (AI), when applied to photography, has no fixed meaning. It is impossible to discuss whether 'AI' is acceptable unless the discussion is placed in a particular photographic context.

There has been much concern about the appearance of image generator software, often referred to as using 'artificial intelligence', and what this might mean for photography as practiced and shared within the PAGB community.

Some points are listed from discussions in open forums.

To the extent that image generators are trained using libraries of images created by multiple authors, images created by generators are already prohibited by the PAGB's General Conditions on the grounds of plagiarism ie, passing off the work of others as your own.

Detection of plagiarism remains difficult.

Artificial Intelligence

By repute, the phrase 'artificial intelligence' was coined in 1956, at which point it was associated with the aim of creating machines capable of displaying 'intelligence'.

Philosophical debate on intelligence, the mind and on consciousness has been ongoing for centuries. To the extent that intelligence could be associated with logic, and as logic was definable, the creation of machines, whether for simple calculations such as by Babbage or as a general theory by Turing, can be said to have arisen from the concept of provable logic. Associating the resulting machines with intelligence is debateable, given that intelligence may not be the same as logic.

The aims of artificial intelligence have always been and remain a subject of debate. One school seeks to create machines with human properties, demonstrating either matching thought or matching actions. Another school seeks to create machines which complement the user by filling in for known deficiencies of the human brain.

We can leave philosophers to consider whether image generators, as currently available and however complicated their processes may be, are 'intelligent' as opposed to being merely complicated. At least we no longer label unexplained processes as witchcraft.

Autonomy v Cooperation

The PAGB, the Federations, the Clubs and their individual members each have autonomy of practice.

As soon as there is cooperation which brings individuals together, there is a need to limit autonomy to facilitate a common purpose. Clubs will decide what is acceptable for activities amongst their members. Federations will decide what is acceptable for Federation activities and the PAGB will decide what is acceptable for PAGB activities.

With respect to image creation for use at any level of Club, Federation or the PAGB, many photographers and event organisers will consider using PAGB conditions, as common conditions make images suitable for any use within the PAGB community.

Conditions may be specific by genre. For example, the PAGB has eligibility criteria for Monochrome (and by implication for Colour) and for Nature.

Image Creation

Because an individual is autonomous, image creation by the individual has no limitations. Images can be created from the individual's own photographic originals or from the photographs of others or from non-photographic sources. In general, content copied for personal study does not infringe copyright. That applies whether using an identified image or using something created by an image generator.

The autonomy of the individual becomes limited as soon as there is an intention to publish the image, whether that is for use in a Club, a Federation, the PAGB, or for exhibition in a physical location or on a website. It is the responsibility of the individual to understand the difference between complete freedom in private and the limitations which apply for any publication.

Applications in Photography

There are actions which amount to automation: processes which are reasonably clear to the user and could be done manually, even if taking a very long time. These have been around for many years, have been refined during that time, and have been considered acceptable.

- Focus stacking takes numerous individual images, collected in a particular way, and stacks the in-focus parts of each image to make a single final image with a depth of field unattainable by practical optics.

- HDR is similar except that parts of each image are selected based on their tonal values.

- Panorama stitching is similar but with matching of image edges.

These examples are shown because there are now cameras, including phones, with processors which will perform each of these from multiple successive images, with the photographer only being presented with the final result as a single image.

Other examples of automation may be in camera or only in post-processing. The list is long and includes raw conversion, noise reduction, selections, texture effects, mono conversions and many more.

What now causes concern for Club and related uses is software which generates images or parts of images, not from processing the photographer's own originals but from or informed by libraries of images made by others. There are so many that there is a comparison website - 'The 10 Best Free AI Art Generators', implying both that there are more than ten and also that there are others available to buy. Any of these generators may claim to use copyright free images, but there is no way of checking.

There is some uncertainty as to whether image generating software creates an output image from snippets of individual images in a library, or alternatively starts from a random image which is refined by the concepts on which it has been trained. The former case uses the work of other photographers. The latter case uses the work of the software developer. But, however they work, the image produced by an image generator is not created directly by the photographer.

As the discussions about 'AI' in photography have continued (see Open Discussion below), it has become more and more apparent that using the simple phrase 'AI' is both misleading and unhelpful. Photography as an art form is artificial in the sense that it is created by a photographer. Whether certain processes used by a photographer are intelligent is irrelevant.

The PAGB Position

Previously, PAGB practice was to limit autonomy by using a copyright restriction. The photographer had to own the copyright of the original image or, in the case of multiple contributing images, to all the images used. However, there are situations where the photographer may not own the copyright of their own image, and conversely where an image may be copyright free, or royalty free or have some other designation suggesting that the photographer can copy and use the image regardless.

Whilst accepting that image generators are causing concern, not least from those who feel their images might have been stolen for use in a generator's library, the possibility of copyright infringement by image generation is not an issue for the PAGB. The PAGB now bypasses all issues of copyright and relies solely on the principle of plagiarism. Plagiarism means passing off as your own work something which is, or includes, a contribution from others.

By relying on plagiarism, any or all images contributing to the final image must have been created by the photographer, and processed under the direct control of the photographer, whether that processing is manual such as cloning, painting, dodging, etc., or automated such as using filters or plugins. The PAGB General Conditions already exclude all images or parts of images which may have been created by others, including generator software (Box).

> Images must be entirely the work of the Photographer. In composite images, all component images must meet this requirement. For the avoidance of doubt, use of images from any other source including, but not limited to, royalty free image banks and clipart are not permitted.

It is possible to generate an image on screen and photograph that screen. That image would be a direct copy of an image which itself is not the photographer's original and cannot be used in a way that implies it is the photographer's own work. It is no different from implying that a photograph of, say, a Van Gogh was the photographer's original art. (There is nothing inherently wrong in copying a Van Gogh painting, which a museum would do in order to offer copies – the main selling point being that they are indeed copies.)

To summarise this section, what is critically important for photography as practiced within Clubs, Federations and the PAGB is whether a final image is completely the work of the photographer or whether it contains the work of others. It is not how an image is produced, whether that does or does not include processes labelled as 'AI'.

There is a separate question of how to detect use of generated images, which is merely an extension of how to detect plagiarism of individual images. Detection is known to be difficult and will become even more so. Reliance has to be placed initially on individual respect and honesty when competing on common ground.

Other Organisations

A recent FIAP document (INFO_260_2023_AI) refers to copyright but also reminds entrants that all parts of the image must have been 'photographed by the author'.

The PSA Ethics Policy includes this prohibition statement: "Representing the work of others as one's own (plagiarising an image) in any circumstance, including PSA competitions or PSA recognized exhibitions."

Thus the PAGB, FIAP and PSA are independently aligned without needing to refer to 'AI'.

The RPS previously issued this statement: "Images created by AI, including those made from the applicant's own files, are not accepted in any Distinction application." However, that has been replaced with a more detailed and nuanced statement which effectively agrees with the proposition set out here that the final image must be the work of the photographer.

Computer Generated Images (CGI)

CGI are created entirely mathematically for use predominantly in films, games and simulators. Like images generated from image libraries or by software trained on such libraries, they have huge commercial value for particular purposes and are here to stay. Whether the resultant images are or are not photographs is again not relevant.

Consider this scenario: I am a landscape gardener/designer. I have planted out a garden for my client. Using 'AI' functions already available, I can take a photograph of the garden and then show my client how it will grow over the years to come.

Consider this scenario: I am a police officer trying to obtain a description of a suspect from a witness. I can use a starter image and distort it to approximate to the witness's description.

The value of such processes and their images is obvious. Augmenting current practice, rather than any interest in Club photography, is really why these processes have been developed.

Open Discussion

There has been a lot of discussion in open forums, and those discussions have raised some valid questions.

How do you define 'AI' in our context?

(See discussion above)

How does the photographer know whether 'AI' has been used?

It seems to be agreed that generation from an external source of any significant item of image content is not acceptable.

The boundary between a processing function which has been trained but uses the photographer's image content, and one which recruits content from other images is not obvious. The average club member is unlikely to be aware of exactly how certain complex functions are performed.

Content-aware fill has been discussed as it may be either side of acceptable. If it can be accepted that Content-aware fill uses the original image, and Generative fill recruits content from elsewhere then the former would be acceptable and the latter would not.

For our purposes we may have to consider intention. If the photographer has deliberately recruited content created from the examination of images of others then that would be

unacceptable. That already applies to adding a texture or changing a sky. Image generation from a prompt is an extension of that.

Externally acquired images can be used in AV.

In our APM, an AV can use whole images from other sources provided they are required for the storyline and limited in number. Such additions should be obvious and it may be appropriate to cite sources.

Separate competition category for generated images?

The photographer and not the image is the entrant to a competition/exhibition. A category for generated images would be a competition between software providers and not between photographers.

How will this affect views on composite images?

Some photographers in the PAGB community have specialised in highly complex composite images. They may need to maintain meticulous records to confirm the sources of all components of their images. Adobe 'Content Credentials' may be of assistance but will not extend to all software packages. Might we reach a stage where actual or possible composite/creative photography is viewed with such suspicion that our judges and commentators will cease to marvel at it, and the fashion will change.

How will judges assess images alleged to be 'AI'?

Judges are asked to assess images within the context of the particular event. Whether an image meets the rules of the event is a matter for the organiser, and judges must assume that all images presented to them are eligible. If a judge has possession of an image file, perhaps in advance, then it is considered unacceptable practice for the judge to undertake any investigation regarding provenance of the image file.

Asking for a RAW file is no solution.

We are dealing with over 30,000 Club members with a wide variety of skill and practice. Plenty of them do not capture in RAW. Most phones do not. Those who do capture in RAW may not routinely retain images in that format. A single submitted image may comprise many individual images. Whatever material may be requested and examined, an investigation will be complicated and may not give a definitive answer.

Before assuming that viewing a RAW file is an assurance of originality, do not forget that a RAW file does not contain RGB pixels, that every RGB pixel in an image file viewed via a RAW converter has been created by calculated interpolation, and that different RAW converters with their options work in different ways to produce different results.