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5. COMIC CONTRACTS 2.0 – CONTRACTS THAT HAVE (AND GIVE) A VOICE

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Abstract

Composite Comic Contracts are the next iteration of contract design, building on the development of legally binding visual contracts, known as Comic Contracts. Making contracts and contractual rights digitally accessible and understandable affords agency and access to justice for the cognitively vulnerable. We describe the creative and contracting processes and discuss the benefits and challenges from a cognitive-linguistic perspective and from a Proactive Contracting legal and interpretive perspective. By enhancing engagement, comprehension and retention of information, Composite Comic Contracts provide the essential preconditions for cognitive accessibility and the success of any contractual relationship with cognitively vulnerable people. We argue that elusive legal certainty on potential legal interpretive issues should not be a barrier to legal innovation and legal design. Composite Comic Contracts are not only contracts that *have* a voice, but also ones that *give* a voice.

1. Introduction

Comic Contracts are designed to be legally binding contracts where the parties to the contract are represented as visual characters and where the contract terms are communicated mainly visually.¹ Comic contracts present the terms of a contract through engaging visuals, an easy-to-follow structure and simplified language. They are designed to make contracts easy to engage with and easy to understand for low-literate and vulnerable people.

1 Helena Haapio, Daniela Alina Plewe and Robert de Rooy, 'Next Generation Deal Design: Comics and Visual Platforms for Contracting' in Erich Schweighofer, Franz Kummer, Walter Hötendorfer and Georg Borges (eds), *Networks. Proceedings of the 19th International Legal Informatics Symposium IRIS 2016* (Österreichische Computer Gesellschaft OCG 2016).

Composite Comic Contracts² are the next iteration of contract design towards affording vulnerable people³ the agency and the dignity to autonomously understand contracts. This new contracting format digitally combines the Comic Contract with an audio narrative of the contract, mediated by synchronising the narrative with pre-set zooming and panning of the relevant images.

Our chapter presents examples of a composite version of a Comic Contract created for seasonal farmworkers on a ClemenGold citrus farm in Letsitele, South Africa.⁴ The digital Comic Contract contracting platform⁵ consists of two parts: the authoring tool and the contracting tool. The audio-visual experience of the contract is compiled and crafted with the authoring tool and the digital contract signing process is executed by the contracting tool.⁶ In this chapter, the samples of the visual and audio elements of the contract are presented in English. In practice, to further aid easy comprehension, we envisage that both the textual and audio elements of the Composite Comic Contract will be presented in the user's mother tongue.

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- 2 This contract type can be associated with multisensory legal phenomena, a concept introduced by Colette Brunschwig. See e.g. Colette R Brunschwig, 'Contract Comics and the Visualization, Audio-Visualization, and Multisensorization of Law' (2019) 46(2) *The University of Western Australia Law Review* 191. See also Colette R Brunschwig, 'Visual Law and Legal Design: Questions and Tentative Answers' (2021) 27 *Jusletter-IT*.
 - 3 For the purposes of this chapter, 'vulnerable people' refers to people who need help to understand a contract, such as people not fluent in the contracting language or people who struggle to read and understand contracts or legal language. It typically includes ethnic minorities and migrants, and generally people who have poor reading skills.
 - 4 The original Comic Contract created for ClemenGold is discussed, for instance, in Robert de Rooy, 'Nurturing the Dignity of Vulnerable and Marginalized People, One Contract at a Time' (2022) 84 *The Clarity Journal* 39.
 - 5 The platform is called ShowSmart. Like the original Comic Contracts, it was developed by Creative Contracts (Pty) Ltd, a social enterprise founded by chapter co-author Robert de Rooy.
 - 6 A link to a video demonstrating excerpts from this Composite Comic Contract can be found here: <https://www.youtube.com/watch?v=I4l-fR_V97U>. Process screenshots of this video, along with a sample page showing the visual information that the reader sees at a particular moment, with the corresponding text that the reader hears, are presented in Appendix 1.

Our chapter begins with viewing Composite Comic Contracts in the context of access to justice, as a means to make contracts and contractual rights accessible and understandable to vulnerable people. We describe how Composite Comic Contracts are created and how the contracting process works. We then discuss the benefits and challenges of Composite Comic Contracts from two disciplinary perspectives. We first evaluate Composite Comic Contracts from a cognitive-linguistic perspective. We discuss why images are superior to words when it comes to comprehension and recall of complex content, why having an audio narration of the contract content reduces the reader's cognitive load and why, from a cognitive perspective, the Composite Comic Contract is a combination of information presented in various modes.

We then evaluate Composite Comic Contracts from a legal perspective. We introduce the Composite Comic Contract as an expression of the principles of Proactive Contracting, where the focus is on successful implementation rather than interpretation in dispute resolution. We then discuss some preliminary legal and interpretive implications that emerge from this new contracting format and offer some preliminary views on these based on general principles of contract formation and interpretation common to the jurisdictions with which the authors are familiar. Our chapter does not attempt to draw any legal conclusions, other than to map the territory and discuss some of the key factors that influence the assessment of Composite Comic Contracts by different audiences, including legal audiences.

2. Access to Justice and Comic Contracts

The need to make contracts easy to understand forms part of the broader challenge of providing people with *access to justice*, which is not just about access to a court of law or to easier, quicker or cheaper dispute resolution.⁷ Access to justice is also part of the UN's Sustainable Development Goal 16, which aims to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build

7 According to Richard Susskind, there are four elements of access to justice: dispute resolution, dispute containment, dispute avoidance and legal health promotion, Richard Susskind, *Online Courts and the Future of Justice* (OUP 2019).

effective, accountable and inclusive institutions at all levels.⁸ Access to justice is a basic principle of the rule of law. In the absence of access to justice ‘people are unable to have their voice heard, exercise their rights, challenge discrimination, or hold decision-makers accountable’.⁹

Contracts contain rights and impose obligations, and either party (in theory) can call on the state to enforce these rights and obligations. So, how fit for purpose is a contract when vulnerable people cannot read what they sign, and, more importantly, are not able to access it when they need to rely on the contract? Put differently: ‘*You can’t fight for your rights if you don’t know what they are.*’¹⁰

In addition to making contracts accessible and understandable for vulnerable people, the Composite Comic Contract seeks to address some shortcomings of conventional paper contracts. First, paper contracts get easily damaged and lost. There is a strong correlation between illiteracy and poverty, and people living in poverty are vulnerable to impermanence, displacement and weather. They often do not have the facilities or access to facilities to safely store important documents. Second, paper contracts require printing, completing, copying, and storing. Third, the size of the population of people that are vulnerable and sign contracts that they cannot read or understand requires a more efficient, scalable, and easy-to-manage solution than paper-based contracts. Finally, what about the needs of those vulnerable people who do not have good eyesight or who prefer to, or must, rely on their hearing?

These learnings provoked a journey to develop a solution that continues to build towards the purpose of helping vulnerable people easily access their contractual rights and other important information, and thereby access to justice. While it was obvious that the solution must be a digital contracting platform, for the same reasons that public and private organisations are embracing digital contract management systems, designing and developing a solution for vulnerable users introduces con-

8 ‘Sustainable Development Goal 16’ (*United Nations and the Rule of Law*) <<https://www.un.org/ruleoflaw/sdg-16/>> accessed 3 March 2023.

9 ‘Access to Justice’ (*United Nations and the Rule of Law*) <<https://www.un.org/ruleoflaw/thematic-areas/access-to-justice-and-rule-of-law-institutions/access-to-justice>> accessed 3 March 2023.

10 ‘John G. Roberts, Supreme Court Chief Justice’ (ThoughtCo). <<https://www.thoughtco.com/john-g-roberts-biography-3322403>> accessed 23 October 2022.

straints, for example: lack of access to computers or smartphones, high turnover of phones and phone numbers, high data costs for users, and the challenge of making it engaging and practical to view the pages of a contract on a small screen.

3. Composite Comic Contracts

Most people are familiar with the forbidding format of conventional contracts, which for many present a *wall of text*.¹¹ Contracts are typically documents written by lawyers who assume that the only reader of the contract will be another lawyer or a judge.¹² When governments and lawyers try to address the difficulties of low-literate people in reading and understanding their contracts, the outcome of that effort often looks something like this:

NOTICE

In terms of Section 49 of the Consumer Protection Act No. 68 of 2008

This agreement contains terms and conditions that resemble the style of words in this notice. These conditions may: - limit the risk or liability of the Service Provider or any third party, - might impose risk or liability on the consumer, - might compel the consumer to indemnify the Service Provider or third party, and/or validate an acknowledgement by the consumer, of a fact.

The Consumer's attention is specifically required to take note of these conditions and clauses as they are important and must be carefully read and understood. By signature of this lease, the Consumer acknowledges that the consumer has carefully perused and understood the content of this agreement.

If the Consumer has not been able to read and understand this agreement, the Consumer confirms that they requested an explanation, and were provided with an explanation and that the Consumer understand the particulars of this agreement, including all clauses that might in any manner limit the risk or accountability of the Service Provider or compel the Consumer to compensate the Service Provider for any reason, and including, but not limited to: clauses 1,2,3,11,14,25,43 of this agreement.

Fig. 1. A typical notice required by Section 58 (1) of the South African Consumer Protection Act, 68 of 2008, elaborated for illustration purposes by Robert de Rooy.

11 Stefania Passera, 'Beyond the Wall of Contract Text: Visualizing Contracts to Foster Understanding and Collaboration Within and Across Organizations' (PhD Thesis, Aalto University 2017).

12 Gerlinde Berger-Wallisser, Robert C Bird and Helena Haapio, 'Promoting Business Success Through Contract Visualization' (2011) 17 *Journal of Law, Business & Ethics* 55.

3.1. *The Design of a Composite Comic Contract Template*

While it is beyond the scope of this chapter to trace the history of the legal design movement away from such a unidimensional assumption of what a contract must look like, it is safe to say that the growing awareness of Proactive Contracting, legal design and legal tech has removed contracts (and contracting) from the exclusive custody of lawyers, and opened up the design of contracts (*the glue of business*¹³ that holds together our modern economies¹⁴) to professionals from various disciplines. People without a law degree are now invited to collaborate on designing better contracts and contracting processes. It was in this trans-disciplinary space that the Composite Comic Contract emerged from a collaboration between a lawyer, a writer, illustrators, designers and software developers.

Composite Comic Contract templates are designed using the authoring tool of the software platform¹⁵. We take the image files¹⁶ of the pages of a Comic Contract, which are presented mainly in images, together with any important or necessary text. We then write a script that describes the content of the page, and we record a native speaker of the contract's language reading of the script. The image file and the audio file are then uploaded to the authoring tool where zoom points and zoom depths are set to synchronise the narrative with the relevant panels of the visual file to guide the reader's attention to the relevant images and information as it is being discussed in the narrative. This process is facilitated by an instant preview display of the template under construction, allowing the author to fine tune the zoom points and narrative synchronicity for optimal display and readability on any mobile device.

The authoring tool allows for the system to add certain text information to the digital contract as part of the preparation and execution of the contract. Two types of additional text information are accommodated,

13 Passera (n 11), 19.

14 'The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2016' (*NobelPrize.Org*) <<https://www.nobelprize.org/prizes/economic-sciences/2016/press-release/>> accessed 9 October 2022.

15 The ShowSmart platform referred to in footnote 5 above.

16 The system is configured to be able to use any of the typical image files, for example JPG or PNG.

offer information and acceptor information. Offer information markers allow the party presenting the contract template (for example, a farmer that wants to employ seasonal farm workers) to add information that may vary from contract to contract to blank fields provided for on the image file, based on the same template. This would typically include pay rates, place of work, task lists or working hours. Acceptor information markers provide for the system to add the details of each person who executes the contract (in this case a farm worker) to the relevant blank fields provided for on the relevant contract template. Once the Composite Comic Contract template has been authored, it is published and ready for presentation and execution.

3.2. The Presentation and Execution of a Composite Comic Contract

The platform can present the contract templates for execution in two ways, depending on the employment scenario and the phone available to the intended user: the *remote* (online) mode and the *local* (in-person) mode.

The ‘remote mode’ is suitable where the employer knows to whom they want to send an employment contract and the prospective worker has a smartphone, or easy access to someone with a smartphone or a computer. Continuing with our farming scenario, this would normally be the case with returning workers or workers who have pre-registered for employment. In the remote mode, an SMS is sent with a link to a personal website that contains a link to the contract. On clicking the link the composite contract is displayed. After the contract has been viewed, the worker is presented with the option to accept or reject the contract offer. The remote mode allows the prospective employee to review and consider the contract offer at their own leisure and in their own time. When the worker has digitally signed the contract, the platform is updated and the farmer is able to monitor which contract offers have been signed, which are outstanding, and which have been refused.

The ‘in-person’ mode is suitable where the employer is looking to recruit large groups of new workers, or where the prospective workers generally do not have smartphones, or easy access to someone with a smartphone or a computer. The only requirement is that all the workers need to bring a mobile phone that can receive and send an SMS. Mo-

mobile phones have become very cheap and are generally available to most people. With the in-person mode each worker's details are captured and their phone number is authenticated before the contract template, completed with all the relevant offer information markers, is presented to all the workers on a screen. At the end of the display of the full contract, the workers are invited to digitally sign the contract by replying to an SMS with the unique code displayed as part of the contract presentation, and thus only available to the workers who are present for the presentation and who have been registered.

In both the remote and the in-person modes, once the contracts have been signed, the system sends an SMS with a link to their phone, which opens up their personal webpage, from where they can open a link to their signed contract in two formats, a PDF format for downloading and printing, and the audio-visual Composite Contract format, for easy access to review the contract whenever needed.

Technically, the integrity of the component parts of the contract is ensured and preserved through the generation of a digital key for each signed contract, by hashing the metadata of all the files that make up the audio-visual experience, including the time and date stamps of the digital signature of the Composite Comic Contract. The system digitally signs all the underlying data that make up the Composite Comic Contract so that it can be independently verified that the underlying data has not been changed since it was signed. To put it differently, the system provides an immutable digital guarantee of the full content of the Composite Comic Contract, when it was seen and heard, and when and by whom it was signed.

Finally, as the cost of data is still a very real barrier to digital inclusivity of the most underserved members of society, the Composite Comic Contract offers a low data solution, as the image and audio files are orders of magnitude smaller than, for example, a typical movie file, which could, in theory and to some extent, offer a similar experience to the user.

3.3. The Business Rationale for the Composite Comic Contract

Businesses routinely contract low-literate and vulnerable people, whether as suppliers of their labour, as consumers of products or services, or as stakeholders in value chains or as communities affected by projects. In

an ideal world, any legal product or process designed to make contracts easier for low-literate and vulnerable people to engage with, and easier to understand and remember the content, should suffice as a rationale for the implementation of such solutions. But we don't live in an ideal world, and while there are happily some exceptions, most businesses are ignorant of (or they have more pressing priorities than) the challenges faced by low-literate and vulnerable people when they contract with them. This means that if we want to reach more low-literate and vulnerable people with empowering innovative legal products or processes, these products and services must also have compelling value propositions for a business to implement such solutions.

Applying this lens to Composite Comic Contracts, and staying with our farming scenario, some of the value propositions that this solution offers include: 1) the presentation and execution of the employment contract are much easier and save a lot of time and resources that would otherwise have to be allocated to each contracting session; 2) the contract is always 'explained' and understood consistently, reducing the risk of misunderstanding, Chinese Whispers¹⁷ and potential disputes; 3) the employer has real time reporting of the contracts that were signed, and proof that the contract was properly explained to the workers, which is important, as farmers are often accountable to ethical or due diligence audits by customers or buyers; and 4) the system is paperless, obviating all the challenges of completing, data capture and storing of paper contracts.

4. Composite Comic Contracts from a Cognitive Accessibility Perspective

The term *cognitive accessibility* refers to practices that remove barriers for people who have difficulties in processing information.¹⁸ Readers may be cognitively vulnerable for a variety of reasons: some have poor or non-existing reading skills, some have cognitive challenges that affect

17 'Chinese whispers' refers to a sequence of repetitions of a story, each one differing slightly from the original, so that the final telling bears only a scant resemblance to the original.

18 'What Is Cognitive Accessibility?' (*Bureau of Internet Accessibility*) <<https://www.boia.org/blog/what-is-cognitive-accessibility>> accessed 10 February 2023.

perception, memory, or attention, and some are non-fluent in a particular language. It is important to bear in mind that all of us can be cognitively vulnerable when, for instance, we visit, or are forced to migrate to, foreign countries and are not familiar with the local language.

When designing information with the goal of removing cognitive accessibility barriers as effectively as possible, the design needs to be in line with how the human mind processes information. A contract does not fulfil its purpose unless the user is able to process, comprehend and remember the information that is presented. The cognitive interpretation is therefore the ultimate threshold in access to justice.

In this section of our chapter, we review research from different areas of psychology and cognitive linguistics to describe how the different information modes of Composite Comic Contracts – images, written text, auditive text, and movement through zooming and panning – are cognitively processed, and how the Composite Comic Contract design cognitively supports information processing. We first discuss comic illustrations on their own (What are the cognitive benefits of images?), then presenting the illustrations with words (How can images support text comprehension?), and finally, presenting the images and text with audio and movement (What are the cognitive benefits of the audio-visual presentation?). We conclude with an assessment of Composite Comic Contracts as a whole (How do the components of the audio-visual product support each other?).

4.1. Comic Illustrations from a Cognitive Perspective

Images are generally recognized with ease and remembered well. Studies in Experimental Psychology have repeatedly demonstrated that the human brain can store a massive number of images with a significant amount of detail.¹⁹ In an oft-quoted visual long-term memory experiment, people were shown 10,000 images, and, in a subsequent recognition memory task, they remembered 83% of them.²⁰ An extensive body

19 For a comprehensive review of such studies, see e.g. Talia Konkle and others, 'Conceptual Distinctiveness Supports Detailed Visual Long-Term Memory for Real-World Objects' (2010) 139(3) *Journal of Experimental Psychology* 558.

20 Lionel Standing, 'Learning 10000 Pictures' (1973) 25(2) *Quarterly Journal of Exper-*

of literature over the past five decades has shown that images are remembered better than words: If a person is shown a series of images and words and then tested for recall, the images are remembered better.²¹ This mnemonic advantage of images over words is referred to as *the picture superiority effect*.²²

Image interpretation is affected by reader characteristics and situational factors. For instance, eye-tracking research has demonstrated that readers with different cultural backgrounds can look, and hence interpret, images in differing ways. One such study compared how American and Chinese participants looked at a set of images of various focal objects (people, objects) against complex backgrounds. The study found that the American participants mainly looked at the focal objects in the images and that the Chinese participants focused more on what could be seen in the background. When subsequently interviewed about the images, what the participants remembered about the images reflected what they had visually focused on.²³ In other words, the same images carried different meanings for viewers with different cultural backgrounds.

Furthermore, we also have individual differences as interpreters of images within cultural communities. Psychological studies have demonstrated that our expectations, attitudes and beliefs influence how we interpret the materials we read, and that we interpret images – and texts – differently in different emotional states.²⁴ The interpretation we construct of an image when we are frustrated is likely to be different to an interpretation made whilst happy and calm. In addition to affecting our interpretations of images, our feelings also physically affect our vision, in other words, our feelings affect how our eyesight works at a particular

imental Psychology 207.

- 21 For a comprehensive review of such studies, see e.g. Tyler M Ensor and others, 'Increasing Word Distinctiveness Eliminates the Picture Superiority Effect in Recognition: Evidence for the Physical-Distinctiveness Account' (2019) 47 *Memory & Cognition* 182.
- 22 Allan Paivio and Kalman Csapo, 'Picture Superiority in Free Recall: Imagery or Dual Coding?' (1973) 5 *Cognitive Psychology* 176.
- 23 Hannah Faye Chua and others, 'Cultural Variation in Eye Movements During Scene Perception' (2005) 102(35) *Proceedings of the National Academy of Sciences of the United States of America* 12629.
- 24 Paula M Niedenthal and Adrienne Wood, 'Does Emotion Influence Visual Perception? Depends on How You Look At It' (2019) 33(1) *Cognition and Emotion* 77.

moment (for instance, when we feel fear, our contrast vision gets better: we are able to distinguish contrast between different areas of an image better than we would if we were comfortable and relaxed).²⁵

To sum up, images are a powerful information medium. They are engaging and easily remembered, but their interpretation can be affected by factors such as reader characteristics. Image interpretation can be guided with anchoring the image's meaning with words, either written or spoken.

4.2. *Word–Image Combinations from a Cognitive Perspective*

Studies in cognitive science have theoretically modelled how the combination of words and images is cognitively processed. This research has concluded that, as a general rule, people understand content better from the combination of words and images than from words alone.²⁶ These studies propose that when examining a combination of words and images (e.g. reading a comic contract), the reader constructs connections between the word and the images, resulting in conceptual processing that is deeper than for verbal information alone, and the deeper processing results in comprehending and remembering the content better.²⁷ We may hence argue that, theoretically, images have *the potential* to make words easier to digest. However, as discussed below, the benefits of adding images to complex texts depend on various factors.

Empirical cognitive studies on how adding images to a contract may help or hinder readers in understanding the contract are yet to be conducted. Yet, examining the effects of adding images to verbal content has been the topic of a large body of research in the field of educational psychology and pedagogy. These studies have analysed both individual images used as support for understanding new words or concepts (e.g. individual words matched with images) as well as comics that aim to

25 Elizabeth A Phelps and others, 'Emotion Facilitates Perception and Potentiates the Perceptual Benefits of Attention' (2006) 17(4) *Psychological Science* 292.

26 Richard E Mayer, 'Cognitive Theory of Multimedia Learning' in Richard E Mayer (ed), *The Cambridge Handbook of Multimedia Learning* (CUP 2013).

27 Stephen D Sorden, 'The Cognitive Theory of Multimedia Learning' in Beverly J Irby and others (eds), *The Handbook of Educational Theories* (Information Age Publishing Inc 2013).

inform the reader about serious content, typically referred to as instructional comics.²⁸

The insights gained from these studies have a lot to offer for evaluating the benefits of comic contracts. In this line of research, *learning* refers to being able to retrieve, from one's long-term memory, information one has previously been exposed to. For the non-expert party of an employment contract, the workers, the efficacy of the contract depends on whether they have *learned* at least a part of it, in other words, whether they can recall its content later on. They may not remember all of the details of what was agreed, but as long as they remember the topics that were included in the contract (e.g. 'The contract mentioned something about my sick leave. '), they can be prompted to recover and re-read the contract.

In the following sections, we review educational psychology and pedagogy research that has examined if and how images support the comprehension of complex verbal content and reflect on its implications for comic contract design and use. Our focus is on two central arguments. First, the benefits of adding images to complex text materials are different for different types of content, and second, the benefits of adding images are different for different types of readers.

4.2.1. Adding Images to Text is More Beneficial for Abstract Content than Concrete Content

Within educational psychology, several studies have examined how images can be used as support for learning new concepts and words. Among these studies, one interesting line of research has compared the effect images can have on the reader's ability to learn concrete words (such as *table* and *thirsty*) versus abstract words (such as *regulation*

28 In addition to *instructional comics*, this line of research has referred to these comics as *data comics*, *educational comics* or *science comics* when their subject matter is directly related to scientific content; see e.g. Ertugrul Ozdemir, 'Comics in Modern Physics: Learning Blackbody Radiation Through Quasi-History of Physics' (2017) 1(1) *Studies in Educational Research and Development* 41; Zezhong Wang and others, 'Comparing Effectiveness and Engagement of Data Comics and Infographics' (2019) CHI Conference on Human Factors in Computing Systems Proceedings <<https://doi.org/10.1145/3290605.3300483>> accessed 1 January 2023; Camillia Matuk and others, 'How Do Teachers Use Comics to Promote Engagement, Equity, and Diversity in Science Classrooms?' (2021) 51 *Research in Science Education* 685.

and *secure*) in a foreign language they are still learning.²⁹ The process of learning new words in a foreign language can have parallels with reading a contract: for a vulnerable employee with poor or non-existent reading skills, an employment contract is likely to include words that are new to them, even if the contract is presented in their native language.

This line of research has shown that both types of words, concrete ones as well as abstract ones, are remembered better if presented with corresponding images. However, the improvement effect is small for concrete words, and significant for abstract words.³⁰ In other words, the more abstract the content, the more readers benefit from image support. The image is remembered well, which strengthens the reader's ability to access the learned item (in other words, the word–image combination that represents the abstract word) in their long-term memory.

Traditional contracts are an archetype of abstract language, full of concepts that a vulnerable reader may struggle to ground in their everyday experience. Research on the development of comic contracts has pointed out that illustrating abstract concepts in comic contracts can be particularly challenging, and that such illustration solutions are often 'visual examples' of abstract ideas, such as an image of a judge's gavel as a symbol for a *court order* or *law*.³¹ Yet, these visual examples may have the potential to significantly support readers' comprehension of abstract content. Even if we can't literally draw concepts such as *law*, we can offer a visual hint of what the concept refers to, and hence ground its meaning.

For example, the Composite Comic Contract examined in this chapter explains that the worker will have to pick a minimum number of bags of clementines per day; if they fail to do so, they may receive a *warning*. A

29 Andrew Farley and others, 'The Concreteness Effect and the Bilingual Lexicon: The Impact of Visual Stimuli Attachment on Meaning Recall of Abstract L2 Words' (2012) 16(4) *Language Teaching Research* 443; Andrew Farley and others, 'Is a Picture Worth a Thousand Words? Using Images to Create a Concreteness Effect for Abstract Words: Evidence from Beginning L2 Learners of Spanish' (2014) 97(4) *Hispania* 634; Helen H Shen, 'Imagery and Verbal Coding Approaches in Chinese Vocabulary Instruction' (2010) 14(4) *Language Teaching Research* 485.

30 Farley and others (n 29); Shen (n 29).

31 Eliisa Pitkäsalo and others, 'Image Analysis as a Visualization Tool – Translating Contracts into Comics' in Marcelo Corrales and others (eds) *Research Handbook on Contract Design* (Edward Elgar 2022).

warning is a somewhat abstract concept and is therefore challenging to illustrate precisely. The illustration used in the contract (Figure 2) depicts a visual example of what receiving a warning might look like: it is a serious conversation between a worker and a representative of the employer. The image explains the meaning of the word and the word anchors the meaning of the image.

The word ‘warning’ is superimposed at the bottom right of the image. This corresponds to one of the cognitively-grounded design principles created within Educational Psychology: the so-called *spatial continuity principle* states that multimodal messages containing words and images are better understood if the words and images are presented near to, rather than far from, each other on a page or a screen³² (more of these principles are discussed in section 4.3).



Fig. 2. An example image of the Composite Comic Contract illustrating what receiving a warning may look like. © 2016 Creative Contracts (Pty) Ltd. Licensed under CC BY-NC 4.0.

Images also assist in the assimilation of difficult content by making the content more *engaging*. Comprehending complex content requires active cognitive engagement, and the visual appearance of the material

32 Richard E Mayer, *Multimedia Learning* (CUP 2009).

is one of the motivational factors that can either increase or decrease this engagement.³³ Images increase the reader's motivation to engage with the materials – this is, in fact, the premise and starting point for the audio-visual media research reviewed in section 4.3. Research has even been conducted on whether adding purely decorative, topic-irrelevant images to texts increases readers' engagement, the outcome being that they do, in fact, make the reader read the material in more detail, but, unsurprisingly, do not contribute to text comprehension when measured in comprehension post-tests.³⁴

4.2.2. Adding Images to Text Benefits Different Readers in Different Ways

Research on instructional comics has compared how factors in the readers' cognitive backgrounds, such as language level or academic abilities, may affect how beneficial image support is. These studies have involved a presentation of complex subject matter either as text-only or as an instructional comic for large groups of readers.

These studies have concluded that the more cognitively vulnerable a reader is, the more their reading comprehension benefits from reading complex content in a comic-format as opposed to text-only. Interestingly, the opposite applies for readers who are not cognitively vulnerable: the comic format can actually hinder their reading comprehension. Examples of these studies include comparing the reading comprehension of nano-technology-related science text by low- and high-achieving students (i.e. students who have learning difficulties and students who do not)³⁵ and comparing the reading comprehension of English learning material by readers of low and high proficiency in the English language.³⁶

These studies offer similar explanations as to why a skilled reader does not necessarily benefit from the comic-style format: a reader who

33 Roxana Moreno and Richard E Mayer, 'Interactive Multimodal Learning Environments' (2007) 19 *Educational Psychology Review* 309.

34 Ulrike IE Magnier and others, 'Triggering Situational Interest by Decorative Illustrations Both Fosters and Hinders Learning in Computer-Based Learning Environments' (2014) 29 *Learning and Instruction* 141.

35 Shu-Fen Lin and Huann-shyang Lin, 'Learning Nanotechnology with Texts and Comics: the Impacts on Students of Different Achievement Levels' (2016) 38(8) *International Journal of Science Education* 1373.

36 Jun Liu, 'Effects of Comic Strips on L2 Learners' Reading Comprehension' (2004) 38(2) *TESOL Quarterly* 225.

does not need extra support in comprehending a complex text is likely to have *experience* in reading similar complex texts. The comic, in turn, is a very different type of information offering; it differs from how that reader is accustomed to constructing meaning, and it can hence actually make reading more difficult. The value of these findings for comic contract development may lie in acknowledging these reader differences and their possible connection with attitudes towards comic contract use: A high-proficiency reader who is experienced in reading traditional contracts may not always see the value of comic contracts, since for them personally, the traditional text-only format can be easier to cognitively process. The intended users of comic contracts, namely low- or illiterate readers, however, can significantly benefit from the comic-format – the more cognitively vulnerable they are, the more the comic helps.

4.3. Audio-Visual Contracts Format From a Cognitive Perspective

A Composite Comic Contract includes images, movement that guides the reader through the image page, an audio narrative, and a few written keywords and key phrases. In this section of the chapter, we review research on how humans process audio-visual instructive media (i.e. combinations of still images, moving images, written words, spoken words and sound). We discuss how the combination of these elements is cognitively processed and how audio-visual products such as Composite Comic Contracts should best be designed based on these insights.

4.3.1. Composite Comic Contracts and Information Selection

In the sections above, we concluded that, as a general rule, combining words and images has benefits for information processes: the combination leads to cognitive processing that is deeper than for reading words alone. Words can be presented either as written or spoken information, i.e. either as visual information (perceived with eyes) or auditive information (perceived with ears). This presentation modality affects how the words are cognitively processed.

Presenting words as auditive information has obvious benefits for someone who has poor or non-existing reading skills, but it also benefits more skilled readers by reducing their cognitive load. In terms of cognitive load theory, adding auditive information reduces the so-called

split-attention effect.³⁷ Split-attention occurs when readers have to split their attention between separate sources of information, such as images and written words in a comic contract. The reader looks at the words, then images, then words again. This switching of visual focus creates extraneous cognitive load: it requires information to be maintained in the working memory while searching for the next information source, which diverts working memory resources away from doing what they are supposed to be doing, namely forming a schema, or an understanding, of the material. If the words are presented as audio narration, the reader does not have to split their attention.

Research in Educational Psychology has similarly argued that presenting identical verbal information as written words and as audio narration is counterproductive in audio-visual instructive media since readers have limited capacity to process visually presented material. This so-called *capacity limitation hypothesis* has been formulated into an audio-visual design technique known as the *redundancy principle*, which states that an audio-visual design with audio narration should only include the most essential words (headings, keywords, key phrases) as written text; the rest is redundant. Repeating the most essential words in writing guides readers' attention by emphasising this content.³⁸

The example presented above in Section 4.2, regarding the minimum number of bags of clementines the worker has to pick per day, demonstrates this technique (see Figure 2). The audio narration in this part of the Composite Comic Contract states: ('For example, if you pick only 39 bags in a day,) you will receive a warning, your first warning' (see Process screenshots in Appendix 1). The only word displayed as written text in the Composite Comic Contract is 'Warning'. For those users who are able to read, this visual repetition supports following the contract narrative by offering a reference point. A part of the target readership is illiterate and not able to access written text at all, so from their perspective, all of the written text is redundant. From their perspective, keeping the written text to a minimum also serves to keep the design as clear as possible.

37 John Sweller and others, *Cognitive Load Theory. Explorations in the Learning Sciences, Instructional Systems and Performance Technologies* (Springer 2011).

38 Mayer (n 32).

4.3.2. *Composite Comic Contracts and Information Interpretation*

Cognitively-grounded design principles for audio-visual instructive media emphasise that when presenting images with audio narration, the images and corresponding narration should be presented simultaneously rather than successively (so-called *temporal contiguity principle*).³⁹ Composite Comic Contracts implement this principle by zooming and panning the image page: the relevant zoom points predetermine where the reader will look when hearing a particular part of the contract.

This temporal integration of words and images is particularly important for page designs with several distinct elements such as comic panels, because we cannot predict the order in which a reader will scan a page. Designers may assume that the scan path starts from the top left and proceeds according to the typical Western reading direction, but eye-tracking research has demonstrated that the reader often first looks at visually salient items in a page design, such as items that are relatively large or bright-coloured.⁴⁰ The zooming and panning of the comic contract page is needed to make sure that the reader's visual focus corresponds to the part of the contract page that is being discussed in the audio narration.

The zooming and panning in the Composite Comic Contract are more than mere camera movement: they segment the visual information for the reader and transform the image from something static to an information offering that evolves and progresses in time. For instance, with the clementine bag picking example discussed above, the panning takes the reader from the left panel (a man with a bag of clementines) to the panel on the right (receiving a warning), as the narration states: 'For example, if you pick only 39 bags in a day, you will receive a warning, your first warning' (see Figure 3). The vertical movement from one panel to the next happens within the duration of narrating this sentence, which emphasises cause and effect and the outcome of events.

39 Mayer (n 32).

40 Jana Holsanova, 'In the Eye of the Beholder: Visual Communication From a Recipient Perspective' in David Machin (ed), *Visual Communication* (De Gruyter Mouton 2014).

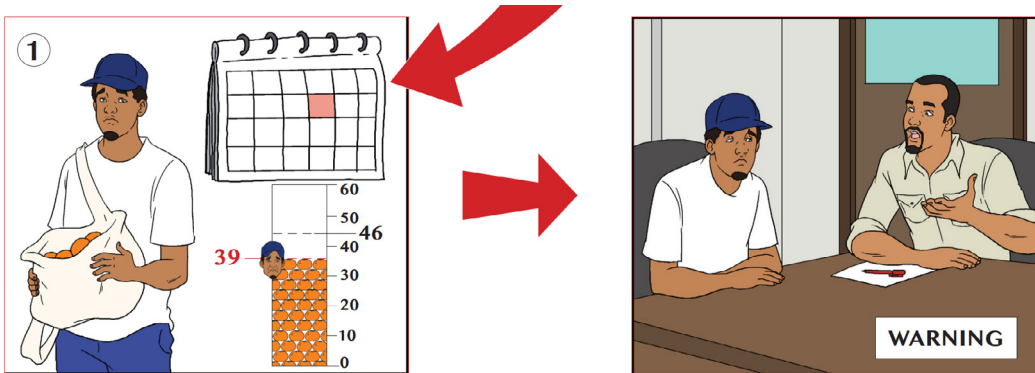


Fig. 3. An example image of the Composite Comic Contract illustrating that the worker will receive a warning if they pick less than 46 bags of clementines per day. In the audio-visual Composite Comic Contract, panning takes the reader from the first panel to the next in a vertical movement. © 2016 Creative Contracts (Pty) Ltd. Licensed under CC BY-NC 4.0.

As the image merges with the movement of zooming and panning, it essentially becomes a different information offer than the image alone. The meanings carried by the other modes of the Composite Comic Contract also merge. The meanings presented through words and the images become intrinsically intertwined: the images explain the words and the words anchor the meanings of the images. The keywords that are displayed as written text place a special emphasis on these words as they are uttered in the audio narrative. Hence, from a cognitive perspective, the content of the Composite Comic Contract cannot be reduced down to any of its constituent elements alone: the contract genuinely is a combination of information presented in various modes.

5. Composite Comic Contracts as an Expression of Proactive Contracting

In recent years, researchers and practitioners have started to discover and develop new ways of making and representing contracts, with the focus shifting from winning a legal argument to making it easier for the parties to achieve their business goals and show respect for their coun-

terparties.⁴¹ New contract genres and designs have been introduced, and contract tech has opened up access to new tools, templates and patterns that challenge old beliefs, and even industries.⁴² Since the 2010s, visual contracts – contracts with embedded images or infographics to supplement text – and Proactive Contract Design have started to gain recognition in business and academia.⁴³ The pioneers of *contract visualisation* proposed a visual turn in contract communication: the use of visual representation as a way to enhance contract clarity and ease of use, embedding images such as timelines, flowcharts and icons in actual contracts, contract briefs and guidance, and as planning and thinking tools during negotiations.⁴⁴

Composite Comic Contracts are an expression of the principles of Proactive Contracting, a form of contracting that is deliberately designed to achieve contracting success. The approach builds on proactive legal thinking, where the focus is on preventing unnecessary problems from arising and promoting positive outcomes, such as legal empowerment,

41 Examples can be found in publications by Stefania Passera and the chapter authors on SSRN and also at Lexpert Contract Visualization, <<https://www.lexpert.com/our-approach/visualization/>>, Stefania Passera Contract design / Legal design, <<https://stefaniapassera.com/portfolio/legal-design/>> and the examples in the WorldCC Contract Design Pattern Library, <<https://contract-design.worldcc.com/>>.

42 Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick, 'The Many Layers and Dimensions of Contract Design' in Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022); Helena Haapio, Robert de Rooy and Thomas D Barton, 'New Contract Genres' in Erich Schweighofer, Franz Kummer, Ahti Saarenpää and Burkhard Schaffer (eds), *Data Protection / LegalTech. Proceedings of the 21st International Legal Informatics Symposium IRIS 2018* (Editions Weblaw 2018).

43 For an overview, see Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022) and Helena Haapio, 'Visualisation in Contract Education and Practice. The First 25 Years in Emily Allbon and Amanda Perry-Kessarlis (eds), *Design in Legal Education* (Routledge 2022). – Strictly speaking, the use of pictures preceded the use of text to capture contracts: Sumerians used pictures to capture the terms of contracts in the 27th century BC. See, for example, the photo of a bill of sale of a male slave and a building in Shuruppak, Sumerian tablet, circa 2600, Musée du Louvre, available at <https://en.wikipedia.org/wiki/Contract#/media/File:Bill_of_sale_Louvre_AO3765.jpg> accessed 7 February 2023.

44 See, e.g. Haapio, Plewe and de Rooy (n 1).

optimal functioning and enhanced access to justice.⁴⁵ Proactive legal strategies have been used in many contexts, varying from achieving the business goals of contract parties to promoting societal goals and helping businesses become more sustainable.⁴⁶

To this end, Proactive Contracting promotes the use of visualisation in contracts to achieve the intended success of the transaction or relationship.⁴⁷ Visualisation of legal or legally relevant information is not limited to the domain of contracts, of course, as proven in the work on Visual Law.⁴⁸ Apart from lawyers and legal scholars, the Proactive Contracting and Proactive Law movement also includes designers and scholars of design, who, through the theories and practice of information design, have actualized and systematised the use of visualisation in contracts.⁴⁹ Within this movement, the use of visualisation in the context of contracts has developed to include: 1) visualisation *in* contracts, 2) visualisation *about* contracts, 3) visualisation *for* contracts and 4) visualisation *as* contracts.⁵⁰

45 Helena Haapio, Thomas D Barton and Marcelo Corrales Compagnucci, 'Legal Design for the Common Good: Proactive Legal Care by Design' in Marcelo Corrales Compagnucci and others (eds), *Legal Design: Integrating Business, Design and Legal Thinking with Technology* (Edward Elgar 2021).

46 See, e.g. Gerlinde Berger-Walliser, Paul Shrivastava and Adam Sulkowski, 'Using Proactive Legal Strategies for Corporate Environmental Sustainability' (2016) 6 *Michigan Journal of Environmental and Administrative Law* 1; and Adam Sulkowski and Ruth Jebe, 'Evolving ESG Reporting Governance, Regime Theory, and Proactive Law: Predictions and Strategies' (2022) 59 *American Business Law Journal* 449. See also Marika Salo-Lahti and Helena Haapio, 'Proactive Legal Design and AI for Better Business and Better Society' (Legal Design Roundtable 2023, Brussels, 17 February 2023).

47 Berger-Walliser, Bird and Haapio (n 12); Thomas Barton, Gerlinde Berger-Walliser and Helena Haapio, 'Visualization: Seeing Contracts for What They Are, and What They Could Become' (2013) 19 *Journal of Law, Business and Ethics* 47.

48 Colette Brunschwig, 'Visualisierung von Rechtsnormen: Legal Design' (PhD Thesis, University of Zurich, 2001).

49 See, e.g. Robert Waller, 'Designing Contracts for Human Readers' in Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022) and Waller R, 'Contract Design for Humans: Preventing Cognitive Accidents' (Simplification Centre 2020) <<https://www.simplificationcentre.org.uk/reports2/contract-design-for-humans>> accessed 29 January 2024. Passera (n 11).

50 Helena Haapio, Daniela Alina Plewe and Robert de Rooy, 'Contract Continuum:

It was these pioneering ideas that inspired the development of the first Comic Contracts, and their ideas and rationale continue to inspire the exploration and design of solutions to achieve contracting success. We argue that the Composite Comic Contracts extend the use of visualisation and harness the other tools of communication, including audio, movement and digital technology to achieve contracting success.

6. Composite Comic Contracts from a Legal Perspective

6.1. Are Composite Comic Contracts Legally Binding?

When presenting the idea of Comic Contracts, we are often asked: ‘Are they legally binding?’. While there is no case law on the question, there have been a few remarks and articles on the subject.⁵¹ The former High Court Chief Justice Robert French, speaking at the ‘Comic and Creative Contracts Conference’ hosted by the University of Western Australia in 2017, stated that there was ‘no reason in principle why pictorial contracts explained orally or supplemented textually or contextually could not be enforceable in the same way as any other contract’. Mark Giancaspro concludes: ‘There is ample authority supporting the notion that a comic contract can satisfy the legal test of contractual certainty’⁵².

We anticipate the same question in respect of Composite Comic Contracts. First, we can state that Composite Comic Contracts are designed to be legally binding and enforceable. They are designed to be an accurate memorandum of the terms of the contract, and for the authenticity of the contract and the electronic signature of the contract to be non-repudiable. Second, from a legal point of view, while Composite Comic Contracts may sound unusual at first, there is no law prohibiting such contracts. The principle of freedom of contract is a universal and essen-

From Text to Images, Comics and Code’ in Erich Schweighofer, Franz Kummer, Walter Hötendorfer and Christoph Sorge (eds), *Trends and Communities of Legal Informatics. Proceedings of the 20th International Legal Informatics Symposium IRIS 2017* (Österreichische Computer Gesellschaft 2017).

51 See, e.g. Mark Giancaspro, ‘Picture-Perfect or Potentially Perilous? Assessing the Validity of “Comic Contracts”’ (2020) 10(1) *The Comics Grid: Journal of Comics Scholarship* 7 and the resources mentioned in Section 5.4.

52 Giancaspro (n 51).

tial starting point for contract law. It allows the parties to choose the content and form of their contracts, and the components they consider appropriate for their purposes. Both civil law and common law countries have rules that require certain contracts or contract content to be in writing to be enforceable. But ‘in writing’ does not necessarily mean just words, nor does it exclude the addition of something to words. Images or spoken words can reflect the intentions of the parties in addition to any required written text. Freedom of contract is not unlimited, of course, and there are other intervening factors. These, however, are beyond the scope of this chapter.

We recognize that we are, to some extent, entering uncharted legal territory, as there are no precedents in terms of rules of interpretation that have been applied to this new contracting format. So, for the purposes of our work, it is important to examine the first principles of contracting based on the requirements and expectations of different contract audiences and how these can be better aligned during the contract design stage, to guide the easy and consistent interpretation of Composite Comic Contracts by all stakeholders: the intended audience of low-literate and vulnerable people, the business users and finally legal users. The goal is to ensure easy comprehension and predictability and to prevent unnecessary disputes. Our work is ongoing, and in this section we present some preliminary legal and interpretive implications for legal users that emerge from this new contracting format. In the following, we also cite some case law as illustrative, not authoritative, examples of jurisprudence in which aspects of the issues raised by this innovation in contracting have been discussed.

6.2. Contracts Come in Many Shapes and Forms

For centuries, the legal enforcement and interpretation of contracts has been about verbal and written contracts. As a result, there is a rich and deep body of contract law literature and case law about the interpretation of such contracts. No treatises currently cover the legal interpretation of Composite Comic Contracts, and few, if any, statutes, cases or other resources address the interpretation of contracts’ visual and other non-textual expressions. While different jurisdictions have different requirements for contracts to be valid and enforceable in court, with

very few exceptions (such as wills and surety agreements), contracts do not need to be in writing to constitute valid and binding legal agreements. Where there are such legal requirements, the minimum content to comply with such prescribed exceptions can be easily included within a Composite Comic Contract without undermining their purpose of being autonomously accessible to low-literate and vulnerable contracting parties.

Unless specifically regulated – or, if regulated, provided that the regulatory requirements are met – the parties are free to choose the form of their contract, which can be verbal or written, and made on paper or electronically. There should then be no reason why a combination of contracting modes cannot constitute a valid, binding and enforceable legal agreement.

6.3. Which Part of the Composite Comic Contract is ‘Legally Binding’?

Conventional drafters of contracts are accustomed to seeking to transfer the risk of contradictions between the text and its explanation to their counterparty, by including statements to the effect that only the writing is legally binding and that any explanations – and even headings – are provided ‘for convenience only’, or by including text to neutralise rules of interpretation that allow for any ambiguity to be interpreted against the party responsible for drafting the contract. If we were to add to the record of text the record of images, the record of audio narrative, and the record of the digitally predetermined and synchronised zooming and panning mediating these modes of communication, the urge to identify one of the modes as the only legally binding one would easily arise.

Comic Contracts have shown us that visualisation *as* contracts is possible. It extends the idea of what a contract could be and could look like, in other words, that a contract does not need to be a document filled with text. The Composite Comic Contract similarly challenges the assumption of what can constitute a contract. We have shown that from a cognitive assessment perspective, the Composite Comic Contract cannot be reduced to any of its constituent elements alone: the contract genuinely is a combination of information presented in various modes.

From a legal design perspective, the Composite Comic Contract privileges the user’s experience and interests. From the user’s perspective,

especially from the perspective of a low-literate or vulnerable person, any attempt to try and introduce a condition that makes one mode legally binding over another would be artificial and introduce unnecessary complexity. If we cannot predict which of the modes, visual, text or audio, the user understands most easily, in which of the modes do we communicate the fact that one of the modes would be the only legally binding mode?

Finally, from a legal perspective, why is it necessary to ‘unscramble the egg’ and insist that one mode is more binding than another? In the typical scenarios faced by conventional contract drafters described above, there is normally a text record of an agreement and evidence of a spontaneous or contemporaneous verbal explanation of the agreement. Then it may be prudent to ensure that the weight of the ‘more reliable’ evidence of the text must prevail over the possibility of ‘less reliable’ evidence of a verbal explanation. Even if the verbal explanation was recorded, the explanation itself could be spontaneous, dynamic, and less coherent. However, where the modes are prepared and recorded equally and simultaneously as part of a single artefact of the proposed agreement, there is no evidentiary reason for any one mode to prevail over another.

We argue that for these reasons, the Composite Comic Contract cannot and should not be reduced to only the visual Comic Contract, or only the narrative, ignoring the combination of these formats as mediated by the digitally predetermined and synchronised zooming and panning. We argue that what constitutes the legally binding contract is the user’s whole experience of the presentation of the contract made up of all its constituent parts.

6.4. How Would Lawyers Interpret a Composite Comic Contract?

With the increased attention to human-friendly contracts such as visual and layered contracts,⁵³ the possible legal challenges related to their in-

53 See e.g. Waller, ‘Designing Contracts for Human Readers’ (n 49); Rob Waller, Stefania Passera and Helena Haapio, ‘Layered Contracts: Both Legally Functional and Human-friendly’ in Kai Jacob, Dierk Schindler, Roger Strathausen and Bernhard Waltl (eds), *Liquid Legal – Humanization and the Law* (Springer 2022).

terpretation and enforcement have started to gain scholarly attention.⁵⁴ As regards case law, at the time of writing, we are not aware of any case law directly related to the topic of this chapter.

Two English High Court rulings, *Altera Voyageur Production Limited v Premier Oil E&P UK Ltd* [2020] EWHC 1891 (Comm) and *Starbev GP Ltd v Interbrew Central European Holdings BV* [2014] EWHC 1311 (Comm), have dealt with ‘illustrations’ and ‘worked examples’, recognizing that these can be integral parts of a commercial contract and may be where the parties’ true bargain can be found. In these two cases, the ‘illustrations’ and ‘worked examples’ were expressed in words rather than images. In the *Altera Voyageur* case, the Judge approved of comments in *Starbev GP Ltd v Interbrew Central European Holdings BV* [2014] EWHC 1311 (Comm) [284] that ‘[t]here is (...) no reason why illustrations or examples should be construed differently than any other term in a contract’ and that ‘in the context of lengthy contracts in financial transactions with much boiler plate (...) illustrations or examples deserve particular attention as something to which the parties particularly turned their minds’.

Even though these cases dealt with verbal rather than visual illustrations and examples, the analogy is striking: we argue that there is no reason why visual or voice components of a contract – as long as the parties have made them part of their contract – should be construed or interpreted differently than any other part of a contract. After all, the key goal of the interpretation exercise is to determine what the parties intended should happen.

While Composite Comic Contracts are a novel concept, the legal challenges related to them are not entirely new. Business people and lawyers experienced in contract practice frequently encounter contracts that are partly oral and partly written as well as contracts that are made

54 Jay Mitchell, ‘Whiteboard and Black-Letter: Visual Communication in Commercial Contracts’ (2018) 20 *University of Pennsylvania Journal of Business Law* 815; Michael D Murray, ‘Cartoon Contracts and the Proactive Visualization of Law’ (2021) 16 *University of Massachusetts Law Review* 98; Michael Murray, ‘Toward a Universal Visual Language of Law’ (13 March 2021) <<https://ssrn.com/abstract=3502568>> accessed 7 February 2023; Vesa Annola, Helena Haapio and Merja Koskela, ‘Interpreting Images in Contracts’ in Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022).

in many languages. When a contract is written in different languages (including also picture language and multimodality), a number of potential issues can arise due to the challenges of accurate intra- or inter-semiotic translation, which can be hard, especially due to the different concepts, styles and language used in different contexts and legal systems. Courts and arbitrators have dealt with such problems, to which the parties may or may not have provided guidance for example through a prevailing language provision⁵⁵ or an integration clause.⁵⁶

As indicated above, it is possible for images to sometimes be subject to differing interpretations. Should an image or a combination of images alone or with text be relevant to a legal dispute, the contract would have to be interpreted and a decision would have to be taken on which interpretation prevails. But does this possibility disqualify the use of visuals in contracting? We argue that it does not, just as the fact that there are legal libraries filled with case law about differing interpretations of text-based agreements does not disqualify the use of text in contracting.

The first point to make is that unlike conventional text-based agreements, it is much more likely that the transparent and easy to understand content of a Composite Comic Contract will surface any ambiguity or contradictions *before* a contract is signed. But we nevertheless need to consider the question of how the courts may deal with differing interpretations of a Composite Comic Contract.

The rules of contract interpretation have developed mainly in the context of text-based agreements. Currently, there is no established legal doctrine for interpreting the combination of written text, images and audio in contracts. However, the idea of visuals as contract components is not entirely new for judges and arbitrators. For certain types of conventional contracts, such as construction and engineering contracts, visuals have been used for quite some time: maps and explanatory drawings

55 A prevailing language provision typically states that in the event of a dispute about interpreting the contract arising from the fact that it exists in multiple languages, the contract in a named, 'official' language will govern the interpretation.

56 Some (but not all) countries' laws require a court to focus on the written contract alone, and the parties can include in their contract a provision, an integration clause (aka a merger clause or an entire agreement clause) to the same effect. See, e.g. Annola, Haapio and Koskela (n 54) and Kim Lewison, *The Interpretation of Contracts* (Sweet & Maxwell 2007) 99.

have traditionally been relied on to provide technical clarity, for example, by showing location, boundaries, shape and size, tolerances, or other aspects of the desired outcome of the performance.⁵⁷ Courts and arbitral tribunals have dealt with disputes involving such visuals and have interpreted contracts in relation to them. Again, the parties (or the contract forms they use) may or may not have provided guidance in this respect.⁵⁸

There is the view that not knowing how courts or litigators would view – or challenge – Composite Comic Contracts could create a barrier to their adoption and slow down the development of the field. In the context of visuals, according to Jay Mitchell, '[w]idespread use of visuals by lawyers is unlikely (and unwise) absent the demonstration of a solid legal foundation for such use.'⁵⁹

But as our courts generally do not engage in determining matters of academic interest only, how do we develop this 'solid legal foundation'? The enormous legal foundation built up over centuries of jurisprudence on the interpretation of text agreement has done little to reduce disputes regarding contract interpretation. A decision by a court on any contract, image or text interpretation would only be valid for that image or text in the context of that contract. Conversely, a decision on any defect or issue in a visual or textual agreement would not disqualify or invalidate all visual or textual agreements.

As contracts are made for people to use, and not for lawyers to litigate, we believe that the absence of a solid legal foundation for the use and possible interpretative issues posed by Composite Comic Contracts should not dissuade contract designers from adopting innovative

57 Annola, Haapio and Koskela (n 54).

58 The NEC contract flowcharts, for example, expressly state that the flow charts are not contract documents, they are not part of the contract, and they should not be used for legal interpretation of the meaning of the contract. See, e.g., NEC, *Guidance Notes and Flowcharts for the Professional Services Contract – NEC3* (Thomas Telford 2005) 1. – For the purposes, and in the context, of our work, such a solution would be counter-productive and we do not recommend it for Composite Comic Contracts.

59 Mitchell (n 54) 852. For a more general discussion of the potential dangers of visualisation in the legal domain, see Elizabeth Porter, 'Taking Images Seriously' (2014) 114 *Columbia Law Review* 1687, 1752–53. Porter mentions the lack of legal rules or traditions to mitigate the interpretive risks associated with images among 'three primary dangers of welcoming images into the legal-writing toolbox'.

formats to empower people to easily understand their contracts. We are not aware of writers cautioning the developers and users of smart contracts to wait until there is a solid body of jurisprudence of smart contracts.

7. Conclusion

Composite Comic Contracts are an expression of the principles of Pro-active Contracting, a form of contracting that aims to achieve *contracting success* in the best possible way. In the design of the content, we privilege the content that expresses the parties' mutual expectations. The design of the format, in turn, aims to achieve *cognitive success* in the best possible way. We employ the formats that are best at engaging the users' attention and that remove cognitive accessibility barriers: visual information and audio information. We also make the effort of presenting the information in the user's mother tongue. All these facets contribute to enhancing engagement with, and the comprehension and retention of the information, essential preconditions for the success of any contractual relationship.

In this chapter, we have argued that what constitutes the Composite Comic Contract is the whole, and not any of its constituent parts. From the point-of-view of cognitive processing, Composite Comic Contracts are complex combinations of images, movement that guides the reader through the images, written text and audio narration. Each of these elements is a separate information offer, but when presented together they become a single source of information. In other words, the contract is not only the visual comic contract or the narrative, it is the combination of these formats as mediated by the digitally predetermined and synchronised zooming and panning.

Composite Comic Contracts take advantage of the full capacity that humans have for information processing. The images make difficult content easier to engage with, and they assist in explaining and structuring the information. Verbal information is easier to absorb when we hear it as opposed to when we read it, since our visual focus does not have to keep switching between the words and the images on the page.

The Composite Comic Contract challenges the assumption of what can constitute a contract and raises new questions, including whether it can

constitute a binding agreement and whether one mode should or could prevail over others. In this chapter we have offered some preliminary views on some of the interpretive issues that may arise. We argue for an approach to innovative contracting formats that privileges the interests of users. Waiting for elusive legal certainty on potential legal issues should not be a barrier to legal innovation and legal design. Composite Comic Contracts afford agency and access to justice for the cognitively vulnerable. Therefore, they are not only contracts that *have* a voice, but also ones that *give* a voice.

Bibliography

- Annola V, Haapio H and Koskela M, 'Interpreting Images in Contracts' in Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022)
- Barton T, Berger-Walliser G and Haapio H, 'Visualization: Seeing Contracts for What They Are, and What They Could Become' (2013) 19 *Journal of Law, Business and Ethics* 47
- Berger-Walliser G, Bird RC and Haapio H, 'Promoting Business Success Through Contract Visualization' (2011) 17 *Journal of Law, Business & Ethics* 55
- , Shrivastava P and Sulkowski A, 'Using Proactive Legal Strategies for Corporate Environmental Sustainability' (2016) 6 *Michigan Journal of Environmental and Administrative Law* 1
- Brunschwig C, 'Visualisierung von Rechtsnormen: Legal Design' (PhD Thesis, University of Zurich, 2001)
- , 'Contract Comics and the Visualization, Audio-Visualization, and Multisensorization of Law' (2019) 46(2) *The University of Western Australia Law Review* 191
- , 'Visual Law and Legal Design: Questions and Tentative Answers' (2021) 27 *Jusletter-IT*
- Chua HF, Boland JE and Nisbett RE, 'Cultural Variation in Eye Movements During Scene Perception' (2005) 102(35) *Proceedings of the National Academy of Sciences of the United States of America* 12629
- Corrales Compagnucci M, Haapio H and Fenwick M (eds), *Research Handbook on Contract Design* (Edward Elgar 2022)
- Corrales Compagnucci M, Haapio H and Fenwick M, 'The Many Layers and Dimensions of Contract Design' in Marcelo Corrales Compagnucci, Helena

- Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022)
- de Rooy R, 'Nurturing the Dignity of Vulnerable and Marginalized People, One Contract at a Time' (2022) 84 *The Clarity Journal* 39
- Ensor TM, Surprenant AM and Neath I, 'Increasing Word Distinctiveness Eliminates the Picture Superiority Effect in Recognition: Evidence for the Physical-Distinctiveness Account' (2019) 47 *Memory & Cognition* 182
- Farley A, Pahom O and Ramonda K, 'Is a Picture Worth a Thousand Words? Using Images to Create a Concreteness Effect for Abstract Words: Evidence from Beginning L2 Learners of Spanish' (2014) 97(4) *Hispania* 634
- Farley A, Ramonda K and Liu X, 'The Concreteness Effect and the Bilingual Lexicon: The Impact of Visual Stimuli Attachment on Meaning Recall of Abstract L2 Words' (2012) 16(4) *Language Teaching Research* 443
- Giancaspro M, 'Picture-Perfect or Potentially Perilous? Assessing the Validity of "Comic Contracts"' (2020) 10(1) *The Comics Grid: Journal of Comics Scholarship* 7
- Haapio H, 'Visualisation in Contract Education and Practice. The First 25 Years' in Emily Allbon and Amanda Perry-Kessaris (eds), *Design in Legal Education* (Routledge 2022)
- , Barton TD and Corrales Compagnucci M, 'Legal Design for the Common Good: Proactive Legal Care by Design' in Marcelo Corrales Compagnucci and others (eds), *Legal Design: Integrating Business, Design and Legal Thinking with Technology* (Edward Elgar 2021)
- , de Rooy R and Barton TD, 'New Contract Genres' in Erich Schweighofer, Franz Kummer, Ahti Saarenpää and Burkhard Schafer (eds), *Data Protection / LegalTech. Proceedings of the 21st International Legal Informatics Symposium IRIS 2018* (Editions Weblaw 2018)
- , Plewe DA and de Rooy R, 'Next Generation Deal Design: Comics and Visual Platforms for Contracting' in Erich Schweighofer, Franz Kummer, Walter Hötendorfer and Georg Borges (eds), *Networks. Proceedings of the 19th International Legal Informatics Symposium IRIS 2016* (Österreichische Computer Gesellschaft OCG 2016)
- , Plewe DA and de Rooy R, 'Contract Continuum: From Text to Images, Comics and Code' in Erich Schweighofer, Franz Kummer, Walter Hötendorfer and Christoph Sorge (eds), *Trends and Communities of Legal Informatics. Proceedings of the 20th International Legal Informatics Symposium IRIS 2017* (Österreichische Computer Gesellschaft 2017)

- Holsanova J, 'In the Eye of the Beholder: Visual Communication from a Recipient Perspective' in David Machin (ed), *Visual Communication* (De Gruyter Mouton 2014)
- Konkle T, Brady TF, Alvarez GA and Oliva A, 'Conceptual Distinctiveness Supports Detailed Visual Long-Term Memory for Real-World Objects' (2010) 139(3) *Journal of Experimental Psychology* 558
- Lewisson K, *The Interpretation of Contracts* (Sweet & Maxwell 2007)
- Lin, SF and Lin HS, 'Learning Nanotechnology with Texts and Comics: The Impacts on Students of Different Achievement Levels' (2016) 38(8) *International Journal of Science Education* 1373
- Liu J, 'Effects of Comic Strips on L2 Learners' Reading Comprehension' (2004) 38(2) *TESOL Quarterly* 225
- Magner UIE, Schwonke R, Aleven V, Popescu O and Renkl A, 'Triggering Situational Interest by Decorative Illustrations both Fosters and Hinders Learning in Computer-Based Learning Environments' (2014) 29 *Learning and Instruction* 141
- Matuk C, Hurwich T, Spiegel A and Diamond J, 'How Do Teachers Use Comics to Promote Engagement, Equity, and Diversity in Science Classrooms?' (2021) 51 *Research in Science Education* 685
- Mayer RE, *Multimedia Learning* (CUP 2009)
- , 'Cognitive Theory of Multimedia Learning' in Richard E Mayer (ed), *The Cambridge Handbook of Multimedia Learning* (CUP 2013)
- Mitchell J, 'Whiteboard and Black-Letter: Visual Communication in Commercial Contracts' (2018) 20 *University of Pennsylvania Journal of Business Law* 815.
- Moreno R and Mayer RE, 'Interactive Multimodal Learning Environments' (2007) 19 *Educational Psychology Review*, 309
- Murray MD, 'Cartoon Contracts and the Proactive Visualization of Law' (2021) 16 *University of Massachusetts Law Review* 98
- , 'Toward a Universal Visual Language of Law' (13 March 2021) <<https://ssrn.com/abstract=3502568>> accessed 7 February 2023
- Niedenthal PM and Wood A, 'Does Emotion Influence Visual Perception? Depends on How You Look at it' (2019) 33(1) *Cognition and Emotion* 77
- Ozdemir E, 'Comics in Modern Physics: Learning Blackbody Radiation Through Quasi-History of Physics' (2017) 1(1) *Studies in Educational Research and Development* 41
- Paivio A and Csapo K, 'Picture Superiority in Free Recall: Imagery or Dual Coding?' (1973) 5 *Cognitive Psychology* 176


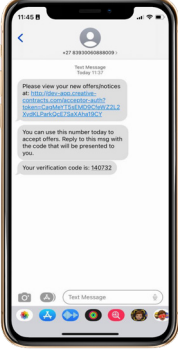
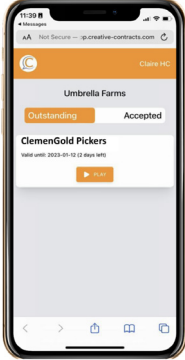
- Passera S, 'Beyond the Wall of Contract Text: Visualizing Contracts to Foster Understanding and Collaboration Within and Across Organizations' (PhD Thesis, Aalto University 2017)
- Phelps EA, Ling S and Carrasco M, 'Emotion Facilitates Perception and Potentiates the Perceptual Benefits of Attention' (2006) 17(4) *Psychological Science* 292
- Pitkäsalo E, Ketola A, Haavisto L and Kalliomaa-Puha L, 'Image Analysis as a Visualization Tool – Translating Contracts into Comics' in Marcelo Corrales and others (eds) *Research Handbook on Contract Design* (Edward Elgar 2022)
- Porter E, 'Taking Images Seriously' (2014) 114 *Columbia Law Review* 1687
- Salo-Lahti M and Haapio H, 'Proactive Legal Design and AI for Better Business and Better Society' (Legal Design Roundtable 2023, Brussels, 17 February 2023)
- Shen HH, 'Imagery and Verbal Coding Approaches in Chinese Vocabulary Instruction' (2010) 14(4) *Language Teaching Research* 485
- Sorden SD, 'The Cognitive Theory of Multimedia Learning' in Beverly J Irby and others (eds), *The Handbook of Educational Theories* (Information Age Publishing Inc. 2013)
- Standing L, 'Learning 10000 Pictures' (1973) 25(2) *Quarterly Journal of Experimental Psychology* 207
- Sulkowski A and Jebe R, 'Evolving ESG Reporting Governance, Regime Theory, and Proactive Law: Predictions and Strategies' (2022) 59 *American Business Law Journal* 449
- Susskind R, *Online Courts and the Future of Justice* (OUP 2019)
- Sweller J, Ayres P and Kalyuga S, *Cognitive Load Theory. Explorations in the Learning Sciences, Instructional Systems and Performance Technologies* (Springer 2011)
- Waller R, 'Contract Design for Humans: Preventing Cognitive Accidents' (Simplification Centre 2020) <<https://www.simplificationcentre.org.uk/reports2/contract-design-for-humans>> accessed 29 January 2024
- , 'Designing Contracts for Human Readers' in Marcelo Corrales Compagnucci, Helena Haapio and Mark Fenwick (eds), *Research Handbook on Contract Design* (Edward Elgar 2022)
- , Passera S and Haapio H, 'Layered Contracts: Both Legally Functional and Human-friendly' in Kai Jacob, Dierk Schindler, Roger Strathausen and Bernhard Walzl (eds), *Liquid Legal – Humanization and the Law* (Springer 2022)


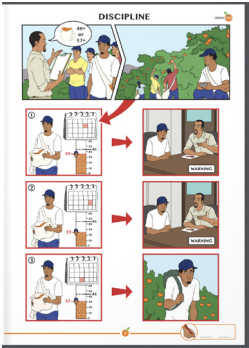
Wang Z, Wang S, Farinella M, Murray-Rust D, Henry-Riche N and Bach B, 'Comparing Effectiveness and Engagement of Data Comics and Infographics' (2019) CHI Conference on Human Factors in Computing Systems Proceedings <<https://doi.org/10.1145/3290605.3300483>> accessed 1 January 2023

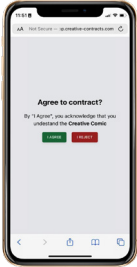
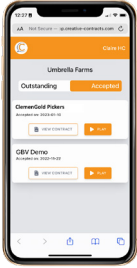

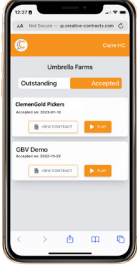
Appendix 1.

Process screenshots of the ClemenGold Composite Comic Contract.

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	<p>This new contracting format combines our visual comic contract with an audio narrative of the contract, mediated by zooming and panning to the relevant panels in sync with the narrative. We call this new contracting format Composite Comic Contracts.</p>
	<p>While our system also supports a process where the users don't have smartphones, here we present the typical contracting process which assumes the user has a smartphone.</p> <p>The contracting process starts when the user receives an SMS with a link to view a presentation of their contract offer.</p>
	<p>When the new employee clicks on the link, it takes them to their own personal website where they can see an outstanding contract offer.</p> <p>When they click on the PLAY button, their digital comic contract is presented.</p>

	<p>For purposes of this annexure, we only show one sample page of how the user will experience the composite contract offer.</p> <p>The textual and audio elements of the Composite Comic Contract are presented in the user’s mother tongue to further aid comprehension.</p>
	<p>This is a script of the narration of the adjacent image file that is part of a typical Comic Contract</p> <p style="text-align: center;"><i>‘Discipline</i></p> <p style="text-align: center;"><i>You need to pick a minimum of 46 bags of clementines per day.</i></p> <p style="text-align: center;"><i>You may take a break every now and then, but if you end up picking less than 46 bags, you may receive a warning.</i></p> <p style="text-align: center;"><i>For example, if you pick only 39 bags in a day, you will receive a warning, your first warning.</i></p> <p style="text-align: center;"><i>If you later again fail to pick the required 46 bags of clementines per day, for example, if you only pick 25 bags instead of 46 bags, you will again receive a warning, your second warning.</i></p> <p style="text-align: center;"><i>If you later then again fail to pick the required 46 bags of clementines, your employment contract will be terminated and you will have to leave the farm.’</i></p>
<p>But the display of a whole page on a phone is too cluttered and small, so we have also developed the zooming and panning function, so that the contract is easy to follow on a small screen.</p>	

	<p>At the end of the presentation of the Composite Comic Contract, the users will be invited to accept the contract by clicking 'I Agree', or they may decline the offer of the contract.</p>
	<p>After accepting the contract, the users' signed contract will be displayed under the 'accepted' screen. When users click on the PLAY CONTRACT button, they can review the audio visual version of the contract to check their rights, obligations and procedures as many times as they like whenever they like.</p>
	<p>When users click on the VIEW CONTRACT button, they can view, download and print the PDF version of the signed contract, together with the date and time and other metadata of the presentation and signature of their contract.</p>
	<p>The same composite format and contracting process may be used to communicate and confirm all other important information to the user, for example, various workplace policies, health and safety advice or notices.</p>