The Technology of Amusement

The New Impressionism

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Constable Research, Leiden

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Second essay, following The Future of Amusement v1.0.

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Abstract

This essay turns a reading into a design. A companion essay argued that the future of amusement is a return from watching to playing.[1] This essay asks how that future can be built. It combines four things. First, the Vacuum.Net theory and its rule of closure. Second, *The Trit Tile*, a number system in which some patterns close and others turn forever. Third, a map of the human senses on the same ladder of scales. Fourth, the history of amusement, from the first Impressionist exhibition to the microdrama. From these it derives a concept: the New Impressionism. A work of the New Impressionism is a first impression that closes in about a tenth of a second, offered on the body's own rhythm, followed by silence in which it can resonate between people. The essay also discusses drugs. It argues that drugs give the feeling of closure without closure, and that a well-built amusement could offer what people seek in them. That is a hope, stated as a hypothesis to test, not as a claim.

1. From the future to the technology

The first essay on this subject read 250 years of mass entertainment as one movement: from playing to watching.[2] Each new medium removed a carrier from the act of play. The ring separated the player from the crowd. The film removed the live actor. Television removed the hall. Animation removed the body. Artificial intelligence now removes the maker. The essay argued that a second movement has begun, from watching back to playing, and that its end point is the end of the spectator.

[1] [1] Konstapel, J. (2026). The Future of Amusement: From Spectacle Back to Play, version 1.0, 22 November 2026. Constable Research, Leiden.

[2] [1] Konstapel, J. (2026). The Future of Amusement: From Spectacle Back to Play, version 1.0, 22 November 2026. Constable Research, Leiden.

That essay described a direction. It did not say how to build anything. This essay does. It asks: if amusement is to become shared play again, what is its technology? Not which devices. Devices change every few years. The question is which principles a maker can use, whatever the device.

The answer draws on everything learned in the reference book *The History of Amusement on the Net*.[3] It adds two works that the first essay used only in passing: *The Trit Tile* and a map of the senses on the ladder.

2. The Vacuum.Net theory in brief

The essay uses one rule from the Vacuum.Net theory.[4] This section explains what is needed.

The theory starts from a single strand of steps. Each step has a direction: to the right, straight on, or to the left. These three directions are called trits. A trit is a direction, not a value. In arithmetic they are written as +1, 0 and −1. Three steps in a row form a window. Of the 27 possible windows, 9 return to where they started. They close. The other 18 stay open and carry tension.

The basic rule is: only what closes, stays. A closed window can be repeated and built upon. An open window must close later, pass its tension on, or disappear.

Closed windows come in two kinds. Three equal steps form a crystal: rigid and fixed. Three different steps form a metabolism: the form returns while its content keeps changing. The edge between closed and open is the membrane. That is where exchange happens.

The theory places everything on a ladder of scales. Each layer is three times larger than the layer below. A position, or ring, is the logarithm base 3 of a measure in fixed units of length and time. On the time ladder a day is at 43.50, a year at 48.87, a human generation at 51.87. Some depths are special. They are where steps of two and steps of three almost meet: 1, 2, 5, 12, 41 and 53. They are called closure depths.[5]

3. The Trit Tile in plain words

The Trit Tile studies a number system written with the digits −1, 0 and +1 in a base that works in the plane.[6] Every point of the plane gets an address made of trits. Most addresses are finite: they end. Some are infinite: they turn forever.

The tile names these two kinds with terms from mathematics. The finite addresses form what is called an initial algebra: everything that can be built in a finite number of steps. The infinite ones form a final coalgebra: everything that can be unfolded without end.[7] In plain words: some things close and stop. Other things keep unfolding.

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[3] [2] Konstapel, J. (2026). The History of Amusement on the Net: A Reference Work on Play, Games, Spectacle and the Vacuum.Net, version 0.5, 22 November 2026. Constable Research, Leiden.

[4] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden.

[5] [3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden.

[6] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[7] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

The central result is about the share of points that turn. It never settles. As the region grows, the share swings between about 29.6 % and 32.0 %. Each factor of three brings it back to the same value.[8] Only its logarithmic average, about 30.9 %, is stable.

Two musical facts follow, and both matter for amusement.

The tile repeats at a ratio of 3:1. In music, a ratio of 3:1 is called a tritave. The Bohlen–Pierce scale repeats at the tritave instead of the octave.[9] The tile gives this scale an arithmetical basis.

The swing of the share behaves like a Shepard–Risset tone. Such a tone seems to rise forever but never gets higher, because it returns to itself after each period.[10] The tile produces this effect from arithmetic alone. Its spectrum can be played as a timbre.[11]

Reading. The tile offers two images for amusement. The first is the pair of closing and turning: the finite game that ends and the infinite game that unfolds, in Carse's terms.[12] The second is the endless rise that never arrives: a tension that keeps returning. Both are used below.

4. The senses on the ladder

A sense, in the Vacuum.Net reading, is any structure that closes with what arrives in its own window, at its own position on the ladder.[13] The essay "The Senses on the Ladder" placed the human senses and rhythms on the same scale as everything else.

Sense or rhythm	Measure	Ring	Source
Vision	400–700 nm	2 to 2.5	
Body warmth	peak near 9.35 µm at 37 °C	5 (closure depth)	
Hearing	20 Hz – 20 kHz	24 to 30	
Alpha rhythm of the brain	centre near 10.65 Hz	31	
Heartbeat	about 1 s	33.2	
Rest cycle	about 90 minutes	41 (closure depth)	
Human life	about 80 years	52.9	

Table 1. Human senses and rhythms on the ladder. Wavelengths use the length ladder; periods use the time ladder.

[8] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[9] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[10] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[11] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

[12] [5] Carse, J. P. (1986). Finite and Infinite Games: A Vision of Life as Play and Possibility. New York: Free Press.

[13] [6] Konstapel, J. (2026). The Senses on the Ladder. constable.blog, 4 November 2026. https://constable.blog/2026/11/04/the-senses-on-the-ladder/

The same essay describes perception as a seam. It closes when an incoming wave matches the window of the receiver. No picture is built inside the head. The seam closes or it does not.[14]

It also gives five rules for offering anything to a living receiver. Read the state first. Offer the layer's own window. Offer nested triads: a frequency, a third of it and a ninth of it. Offer the whole window at once. Leave silence afterward.[15] These five rules become the core of the New Impressionism in section 7.

5. The first impression

How long does it take for a perception to close? One measured answer comes from research on faces. In 2006 Janine Willis and Alexander Todorov showed people unfamiliar faces for 100 milliseconds, 500 milliseconds or one second. Judgments made after 100 milliseconds matched judgments made without time limit. More time made people more confident, but did not change the judgment much.[16]

A tenth of a second stands at about 31 on the time ladder. That is the ring of the alpha rhythm in Table 1. One cycle of the alpha rhythm lasts about 94 milliseconds. A first impression therefore takes about one cycle of the brain's resting rhythm.

The history of amusement found the same ring by another route. In 1963 Tezuka Osamu's studio made the first weekly anime series with about eight new drawings per second.[17] Each drawing stayed on screen for about an eighth of a second. That is position 31.26. Anime compressed animation to the size of one impression. The eye completed the movement between drawings.

Reading. If everything in a work is compressed, what remains is its first impression. What follows is resonance: whatever the impression set in motion. This gives a work two parts. The attack is short and closed, near ring 31. The resonance is long and has no fixed length. It can last a second or a lifetime.

6. Impressionism, 1874

The word "impression" has a history in art. On 15 April 1874 a group of painters opened an independent exhibition in the former studio of the photographer Nadar, at 35 Boulevard des Capucines in Paris.[18] Among the works was Claude Monet's *Impression, Sunrise* of 1872. On 25 April the critic Louis Leroy mocked the show in a review titled "The Exhibition of the Impressionists". He meant the name as an insult. It became the name of a movement.[19]

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[14] [6] Konstapel, J. (2026). The Senses on the Ladder. constable.blog, 4 November 2026. https://constable.blog/2026/11/04/the-senses-on-the-ladder/

[15] [6] Konstapel, J. (2026). The Senses on the Ladder. constable.blog, 4 November 2026. https://constable.blog/2026/11/04/the-senses-on-the-ladder/

[16] [7] Willis, J. and Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. Psychological Science 17(7), 592-598. doi:10.1111/j.1467-9280.2006.01750.x

[17] [8] British Film Institute (Sight and Sound). The seeds of anime: how Japanese animation arose; Looping around limitations: the experimental shorts of Tezuka Osamu.

[18] [9] National Gallery of Art (2024). 1874: The Birth of Impressionism; Encyclopaedia Britannica, The eight Impressionist exhibitions.

[19] [9] National Gallery of Art (2024). 1874: The Birth of Impressionism; Encyclopaedia Britannica, The eight Impressionist exhibitions.

The exhibition was not a success by the usual measures. It drew about 3,500 visitors in a month. The official Salon of the same year drew about half a million.[20] Critics called the paintings unfinished.

That was the point. The Impressionists did not paint the object. They painted the first impression of light on the eye, in quick, open strokes. The viewer completed the image. In the terms of section 2, the painting offered the relations and left the closure to the receiver. That is the fifth form of the culture book: reading keeps the relations and drops the rest.[21]

Twenty-one years later, on 28 December 1895, the Lumière brothers held the first paid film screening in the Grand Café, at 14 Boulevard des Capucines, on the same street.[22] A film is a series of still impressions that the eye joins into movement. Impressionism and cinema began on the same boulevard. Both trusted the receiver to close what was offered.

7. The New Impressionism

The New Impressionism takes the Impressionist insight and gives it a technology. A work of the New Impressionism is not an object to watch. It is a first impression offered to a group of people, on the rhythm of their bodies, followed by a silence in which it resonates between them.

It follows five principles, taken from the five rules of section 4.

Read the state first

A work begins by sensing its receivers: alone or together, rested or tired, at the start of a day or at its end. The Impressionists did this by choosing the hour of the light. A maker today does it by watching the room before beginning.

Offer the impression on the sense's own ring

The attack is placed where the sense closes. For the eye and for faces, that is about a tenth of a second, ring 31.[23] For the body, the heartbeat at ring 33. For a session, the rest cycle of about 90 minutes at ring 41. It is no accident that the classic feature film, at 83 minutes, sits at 40.90, close to one rest cycle.[24]

Offer nested triads

The work is built in steps of three: an impression, a scene of three impressions, a sequence of nine, an evening of twenty-seven. Each level closes and opens the next. This is the structure of the tile: closures at every scale. It also matches the nested rhythm of the second essay's infinite game.

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[20] [9] National Gallery of Art (2024). 1874: The Birth of Impressionism; Encyclopaedia Britannica, The eight Impressionist exhibitions.

[21] [10] Konstapel, J. (2026). The History of Culture on the Net: A Reference Work on Human Culture and the Vacuum.Net, version 1.0, 15 October 2026. Constable Research, Leiden.

[22] [11] Guinness World Records, First cinema in operation; Wikipedia, Salon Indien du Grand Cafe (secondary).

[23] [7] Willis, J. and Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. Psychological Science 17(7), 592-598. doi:10.1111/j.1467-9280.2006.01750.x

[24] [2] Konstapel, J. (2026). The History of Amusement on the Net: A Reference Work on Play, Games, Spectacle and the Vacuum.Net, version 0.5, 22 November 2026. Constable Research, Leiden.

Offer the whole window at once

The impression is given complete. It is not cut into pieces that each end on an open hook. This is the opposite of the microdrama, whose episodes of one or two minutes are built never to close.[25]

Leave silence afterward

The resonance needs room. A New Impressionist work deliberately stops. The silence is part of the design, as the white of the canvas was part of a Monet. In that silence the impression resonates between the people who shared it.

Shared, not private

The first essay showed that the first movement of amusement made the experience ever more private. The New Impressionism reverses this. The impression is offered to a group. The resonance is something people do together: talk, play, answer, continue. A sense closes in one body. A shared impression closes between bodies.

8. The instruments

The principles need instruments. Five follow from the material.

The impression engine. Machines can now generate images, sounds and texts without limit. The figures from music show both the power and the limit. On one service, more than half of all new tracks in June 2026 were made entirely by AI. They received only 1–3 % of the listening.[26] Machines can supply candidates. People decide what closes. The impression engine produces many candidates. A group of human makers chooses the few that close.

The clock of the body. The timing of every work is set by the rings of Table 1: the tenth of a second, the heartbeat, the rest cycle, the days of a feast. The festival of three to seven days is the one form of amusement that has kept its length for more than two thousand years.[27]

The sound of the tile. The New Impressionism can have its own sound. The Bohlen–Pierce scale repeats at the tritave. The tile gives a timbre computed from arithmetic. A Shepard–Risset glide in the tritave rises without end.[28] Together they give a sound that belongs to the ladder of three, not to the octave of two.

Designed silence. Silence is not an empty slot. It is a measured interval, placed after the attack, long enough for resonance to start. How long it must be is not known. It is one of the first things to test.

The open record. Every work, its first showing, its audience and what happened after is recorded from the start, before any analysis. The reference book behind these essays ran a statistical test on

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[25] [12] Media Partners Asia (2025-2026). The Micro-Drama Economy; ReelShort / Crazy Maple Studio report; as reported by Variety and Indian Television. With CNBC (2025).

[26] [13] Deezer Newsroom (January 2025 - July 2026), as reported by TechCrunch and Engadget.

[27] [2] Konstapel, J. (2026). The History of Amusement on the Net: A Reference Work on Play, Games, Spectacle and the Vacuum.Net, version 0.5, 22 November 2026. Constable Research, Leiden.

[28] [4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

its own catalogue and found no proven rhythm.[29] It concluded that only a blind record can decide. The New Impressionism builds that record in.

9. Drugs

People have always sought altered states. Caillois named one of his four kinds of play ilinx: the pursuit of dizziness and vertigo.[30] The carnivals of history had wine.

The scale is large. The United Nations Office on Drugs and Crime estimates that 316 million people used a drug other than alcohol and tobacco in 2023. That is 6 % of people aged 15 to 64, up from 5.2 % in 2013.[31]

In the terms of this essay, a drug gives the feeling of closure without closure. It delivers the reward of a closed window directly into the body, without the window itself. Three differences with play follow.

- Form. Play has a closed window: rules, a start, an end, an outcome. A drug has no form. It skips the window and delivers only the reward. Nothing is built, so the dose must rise.
- Residue. After play something remains: a skill, a story, a bond. That is the third form of the culture book: residue becomes the alphabet of the next depth.[32] A rush leaves no alphabet.
- Company. A shared impression closes between people. A substance acts in one body, even when people use it together.

The difference also explains why the endless stream of short videos can work like a drug. It gives attack after attack and never leaves silence. Each new impression cuts off the resonance of the last.

There is evidence that the need behind drug use can be met in other ways. In Iceland in 1998, 42 % of 15- and 16-year-olds had been drunk in the previous month. By 2016 that share was 5 %. Daily smoking fell from 23 % to 3 %, and lifetime cannabis use from 17 % to 7 %.[33] At the same time, the share of teenagers in organised sport roughly doubled.[34] The programme behind this change grew from the idea of offering "natural highs": activities that change how people feel without the harm of drugs.[35] Its measures also included rules, curfews and parental involvement, so not all of the change can be credited to activities.

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[29] [14] Konstapel, J. (2026). The rhythm test, chapter 20 of The History of Amusement on the Net v0.5, with the script rhythm_test.py; method from The Trit Tile, section 21.

[30] [15] Caillois, R. (1958). Les jeux et les hommes. Paris: Gallimard. English: Man, Play and Games, trans. M. Barash. New York: Free Press, 1961; Urbana: University of Illinois Press, 2001.

[31] [16] UNODC (2025). World Drug Report 2025. Vienna: United Nations Office on Drugs and Crime, 26 June 2025.

[32] [10] Konstapel, J. (2026). The History of Culture on the Net: A Reference Work on Human Culture and the Vacuum.Net, version 1.0, 15 October 2026. Constable Research, Leiden.

[33] [17] Reykjavik University (2016). An Icelandic success story of prevention of adolescent substance use (Youth in Iceland / Planet Youth), via Medical Xpress; with Young, E. (2017), Iceland knows how to stop teen substance abuse, Mosaic, republished by the World Economic Forum.

[34] [17] Reykjavik University (2016). An Icelandic success story of prevention of adolescent substance use (Youth in Iceland / Planet Youth), via Medical Xpress; with Young, E. (2017), Iceland knows how to stop teen substance abuse, Mosaic, republished by the World Economic Forum.

[35] [17] Reykjavik University (2016). An Icelandic success story of prevention of adolescent substance use (Youth in Iceland / Planet Youth), via Medical Xpress; with Young, E. (2017), Iceland knows how to stop teen substance abuse, Mosaic, republished by the World Economic Forum.

Reading and hope. The New Impressionism aims at the same need. If a shared impression, timed to the body and followed by silence, gives people a real closure and a lasting resonance, some of the demand for a chemical shortcut may fall away. This essay does not claim that it will. It states the hope as a hypothesis and proposes to test it. It offers no medical advice.

10. What is tested and what is not

The essay rests on three kinds of statements.

Facts with sources. These include the placement of the senses on the ladder, the 100-millisecond impression, the history of 1874 and 1895, the AI music figures, the drug figures and the Icelandic results.

Readings. These include the claim that a first impression sits on the ring of the alpha rhythm by more than coincidence, that the feature film matches the rest cycle for a reason, that silence makes resonance, and that the tile's structure of closing and turning describes amusement. The reference book's own statistical test found no support for numerical coincidences on the ladder.[36] These readings must therefore be tested before they are trusted.

Tests that can be done now:

- The silence test. Show the same short sequence of impressions to matched groups, with and without designed silence between them. Measure what people recall and talk about a day later.
- The ring test. Vary the length of the attack around a tenth of a second and see whether shared judgments stabilise near ring 31, as the face research suggests.
- The turning test. Record which works keep being continued by their audiences and which stop. The tile predicts that the share that keeps turning will not settle but swing with a period of three. A first check can use the public rankings of the Japanese magazine *Weekly Shōnen Jump*, which stops series that fail with readers.[37]
- The need test. In a group that meets regularly for New Impressionist sessions, record, with consent and care, whether the wish for chemical highs changes. This is the most delicate test. It needs ethical review.

11. Conclusion

The first Impressionists painted what the eye receives in its first moment and left the rest to the viewer. They were mocked for it. Their method changed how the world sees.

The New Impressionism applies the same method to amusement, with the tools of 2026. Machines supply impressions without limit. Human makers choose the few that close. Each impression is offered on the body's own ring, in nested steps of three, whole and not in pieces. Then it stops. In the silence, it resonates between the people who shared it.

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[36] [14] Konstapel, J. (2026). The rhythm test, chapter 20 of The History of Amusement on the Net v0.5, with the script rhythm_test.py; method from The Trit Tile, section 21.

[37] [2] Konstapel, J. (2026). The History of Amusement on the Net: A Reference Work on Play, Games, Spectacle and the Vacuum.Net, version 0.5, 22 November 2026. Constable Research, Leiden.

The technology of amusement is therefore not a device. It is a timing, a structure and a silence. If it works, it gives people what they seek in play, and perhaps some of what they seek in drugs: a closure that is real, shared and lasting. If it does not, the open record will show it.

Annotated references

Each entry gives the source and a short note on what it holds and how this essay uses it. The notes point to where the reader can go deeper. Entries marked secondary are reference works or reports, not original studies.

[1] Konstapel, J. (2026). The Future of Amusement: From Spectacle Back to Play, version 1.0, 22 November 2026. Constable Research, Leiden.

The companion essay. Reads 250 years of mass entertainment as a movement from playing to watching, and argues that a second movement back to shared play has begun. This essay builds on its thesis.

[2] Konstapel, J. (2026). The History of Amusement on the Net: A Reference Work on Play, Games, Spectacle and the Vacuum.Net, version 0.5, 22 November 2026. Constable Research, Leiden.

The reference book behind both essays: 23 chapters from animal play to synthetic forms, a catalogue of about 190 dated cases on the ladder (including the feature film at 40.90 and festivals of three to seven days), and the proposal of a Jump-based test.

[3] Konstapel, J. (2026). Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden.

Primary source of the theory. The single strand, closure, the trits, the ladders x2 and x3 and the closure depths. Read first for the vocabulary of this book.

[4] Konstapel, J. (2026). The Trit Tile: a reference work on a number system that never settles, version 1.1, 21 November 2026. Constable Research, Leiden.

Proves that the share of non-closing points in the plane trit system has no limit and swings with period 3. Gives the cycle detector used in Part III of this book.

[5] Carse, J. P. (1986). Finite and Infinite Games: A Vision of Life as Play and Possibility. New York: Free Press.

Finite games are played to win and end; infinite games are played to continue the play. The distinction maps on closing and turning orbits of the trit tile.

[6] Konstapel, J. (2026). The Senses on the Ladder. constable.blog, 4 November 2026. https://constable.blog/2026/11/04/the-senses-on-the-ladder/

Places the human senses and rhythms on the Vacuum.Net ladder: vision rings 2-2.5, warmth ring 5, hearing 24-30, alpha (10.65 Hz) ring 31, heartbeat 33.2, rest cycle 41, life 52.9. Perception as a seam that closes; five rules for offering to a receiver, ending with silence. Mostly correspondence and prediction, with pre-registered tests.

[7] Willis, J. and Todorov, A. (2006). First impressions: Making up your mind after a 100-ms exposure to a face. Psychological Science 17(7), 592-598. doi:10.1111/j.1467-9280.2006.01750.x

Five experiments: trait judgments after 100 ms correlated highly with judgments made without time limits; longer exposure raised confidence more than it changed the judgment. The empirical basis for the 'first impression' in this essay.

[8] British Film Institute (Sight and Sound). The seeds of anime: how Japanese animation arose; Looping around limitations: the experimental shorts of Tezuka Osamu.

Full animation for a weekly TV series would have needed ten times the labour of the whole industry; Tezuka's Astro Boy (1963) cut to eight new drawings a second, 'not animation, it is anime'.

[9] National Gallery of Art (2024). 1874: The Birth of Impressionism; Encyclopaedia Britannica, The eight Impressionist exhibitions.

First exhibition opened 15 April 1874 in Nadar's former studio, 35 Boulevard des Capucines; about 3,500 visitors against about half a million at the Salon; Louis Leroy's mocking review of 25 April, after Monet's Impression, Sunrise (1872), gave the movement its name.

[10] Konstapel, J. (2026). The History of Culture on the Net: A Reference Work on Human Culture and the Vacuum.Net, version 1.0, 15 October 2026. Constable Research, Leiden.

The companion book. Defines the ladder of positions used here and tells culture kind by kind. It holds almost nothing on play, which is why this book exists.

[11] Guinness World Records, First cinema in operation; Wikipedia, Salon Indien du Grand Cafe (secondary).

The Cinematographe Lumiere opened on 28 December 1895 in the Salon Indien of the Grand Cafe, 14 Boulevard des Capucines, Paris, before about 35 paying visitors; ten films of about 50 seconds.

[12] Media Partners Asia (2025-2026). The Micro-Drama Economy; ReelShort / Crazy Maple Studio report; as reported by Variety and Indian Television. With CNBC (2025).

Episodes of 90 seconds to two minutes; China microdrama revenue from $0.5 billion (2021) to $7 billion (2024), passing local box office; outside China $2.7 billion in 2025; ReelShort revenue $785 million in 2025.

[13] Deezer Newsroom (January 2025 - July 2026), as reported by TechCrunch and Engadget.

Fully AI-generated tracks rose from 10 % of daily uploads (January 2025) to 44 % (April 2026) and over 50 %, about 90,000 a day (June 2026); 13.4 million tagged in 2025; only 1-3 % of streams; 97 % of listeners could not tell AI from human music in a blind test.

[14] Konstapel, J. (2026). The rhythm test, chapter 20 of The History of Amusement on the Net v0.5, with the script rhythm_test.py; method from The Trit Tile, section 21.

The test of Chapter 20: 166 unique positions; fractional parts compared with a within-layer shuffle (20,000 runs); Rayleigh test for ratio 3 and ratio 2; hits near whole numbers and near closure depths.

[15] Caillois, R. (1958). Les jeux et les hommes. Paris: Gallimard. English: Man, Play and Games, trans. M. Barash. New York: Free Press, 1961; Urbana: University of Illinois Press, 2001.

Four kinds of play - agon, alea, mimicry, ilinx - and the axis from paidia (free play) to ludus (play with rules). The standard taxonomy.

[16] UNODC (2025). World Drug Report 2025. Vienna: United Nations Office on Drugs and Crime, 26 June 2025.

316 million people used a drug other than alcohol and tobacco in 2023, 6 % of those aged 15-64, up from 5.2 % in 2013; cannabis 244 million, opioids 61 million, amphetamines 30.7 million, cocaine 25 million.

[17] Reykjavik University (2016). An Icelandic success story of prevention of adolescent substance use (Youth in Iceland / Planet Youth), via Medical Xpress; with Young, E. (2017), Iceland knows how to stop teen substance abuse, Mosaic, republished by the World Economic Forum.

Among 15-16-year-olds, drunk in the past month fell from 42 % (1998) to 5 % (2016), daily smoking from 23 % to 3 %, lifetime cannabis from 17 % to 7 %; organised sport rose from 23 % to 42 %. The programme drew on Harvey Milkman's idea of 'natural highs' and also used curfews, parental involvement and age limits.