Linklater's art of conversation

Twelve scenes from the *Before* trilogy, the science of conversation and 1527 calls

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Abstract. Three films in which almost nothing happens except a conversation held their audience for eighteen years. We read twelve scenes from Richard Linklater's *Before* trilogy alongside the science of turns, silence and self-disclosure, and alongside 1,527 calls with an artificial character on the phone, GAIA 2147.

The films teach a grammar: start from something shared, invite with a game, leave inhabited silences, ask about what the other has just said, go down one layer at a time, announce the clock and end wanting more. The calls show where a machine departs from it. Visitors said 33 % (95 % CI 32–34 %) of the words; GAIA asked 1.7 (95 % CI 1.6–1.8) times more than they did, and in Barcelona, where we asked it to be curious, 2.8 times more. With a voice cascade, 16 % of the median call was machine silence.

We propose ten rules for conversing well, for people and for machines. The films are fiction, written, performed and edited; we measure nothing in them and comparisons with GAIA are analogies marked as such.

Keywords: conversation; film; Linklater; turn-taking; reciprocity; voice agents; self-disclosure.

Table 1. Three films, one mechanism [2, 7, 8].

Film	Place	What stands out
Sunrise, 1995	Vienna, one night	Listening booth, street poet, pretend phone calls
Sunset, 2004	Paris, one afternoon	Real time; takes of up to about 11 min
Midnight, 2013	Greece, one day	Car scene in a single take of about 13 min

1. Films in which nothing happens

In *Before Sunrise*, Jesse tells Céline an idea for television: a channel broadcasting twenty-four hours of someone's ordinary life [1]. The three films do just that with two people. They meet on a train and walk through Vienna until dawn; nine years later they meet again for an afternoon in Paris; nine years after that they spend a day in Greece, and argue [2]. They are American productions shot in Europe, written by Linklater with Kim Krizan and later with the two actors, Ethan Hawke and Julie Delpy [3–5].

GAIA is a character whose whole existence is a conversation, on a public phone, with a stranger who has no reason to stay. If anything in cinema can teach a machine to hold someone with its voice, it is these three films [INT]. The companion paper DM-2026-01 develops the conceptual frame [6]; this one sets the scenes beside data.

2. Twelve scenes

We do not quote dialogue; we describe. Each scene teaches a mechanism and is set against GAIA.

2.1. *Before Sunrise*

1. The train. A couple argues in German; Céline changes seats and ends up next to Jesse, who asks whether she understood the argument [2]. The conversation starts from something both have just seen: a third object takes the weight off the first sentence [INT]. When GAIA stayed silent at pick-up, 71 % (95 % CI 51–85 %) of calls lasted under ten seconds; with a short greeting that acknowledges the situation, 7 % (DM-2026-04).

2. The time travel. To get her off in Vienna, Jesse does not ask for a date: he proposes imagining that, twenty years on, she wonders what would have happened [1]. An invitation framed as a hypothesis commits to nothing. GAIA is that game in full: a voice claiming to call from 2147 and an invoice from the future printed at hang-up [INT].

3. The listening booth. In a record shop they listen to a Kath Bloom song without speaking, glancing at each other [9, 10]. Hoey distinguishes permitted silences between copresent people from lapses noticed as absence [11]. On the phone a silence is not seen to be shared: with no greeting, in 62 % of calls the visitor said nothing.

4. The poet by the canal. A man writes them a poem with the word they choose [10]. The gift works because it is made from something they brought [INT]. GAIA picked up a visitor word in 36 % (95 % CI 34–37 %) of eligible turns (DM-2026-05). The booth could print something made from the visitor's words [HIP].

5. The pretend calls. In a café each pretends to phone a friend and describes the person in front of them [12]. The pretend phone gives distance and distance gives courage. GAIA is a phone: the handset lets people speak without anyone seeing their face [INT].

6. The empty places. They decide not to exchange numbers and to meet in six months; the film ends with the places they passed through, now empty [10, 13]. The end of a good conversation is an open appointment [INT].

2.2. *Before Sunset*

7. The bookshop. Jesse presents his novel in Paris and sees Céline; he has a flight in under an hour [2]. The clock is announced from the first minute and the film lasts as long as the afternoon. GAIA has a time limit and does not say so: in Barcelona 33 % of calls reached it.

8. From light to deep. They start with work and politics and go down, layer by layer, to what matters [2]. Altman and Taylor described social penetration in layers [14]; reciprocal, escalating questions increase closeness between strangers [15]; and people underestimate how much they will enjoy a deep conversation [16]. Our visitors hardly ever went down: love in 3 % and death in 2 % of conversations, against machines (12 %) and the future (10 %).

9. You're going to miss that plane. The film cuts before anyone decides anything [2]. Conversations almost never end when both people want them to [17]. Ending wanting more is what makes people come back [INT].

2.3. *Before Midnight*

10. The setting sun. They watch the sun go down and Céline keeps saying it is still there, until it is not [18]. Narrating the present together is the simplest form of joint attention. GAIA does not see the room, but it hears it [HIP].

11. The hotel room. The longest fight in the trilogy: she leaves and comes back twice [2]. A good conversation is not one that never breaks; it is one that is repaired. In the fight turns lengthen and nobody picks up what the other says, the opposite of the poet [INT]. 2 % of our conversations included swearing.

12. The letter from the future. Jesse presents himself as a time traveller with a letter from her eighty-two-year-old self [2]. The game that opened the first conversation repairs the last one. Returning to what was said at the beginning is the strongest form of memory in a conversation [INT].

3. Time is the material

In *Before Sunset* screen time and story time are the same [7]. A call is also real time; the only thing that breaks it is silence while the machine prepares an answer. We measure it as the share of the call spent waiting,

$$\delta = \frac{1}{T_{\text{call}}} \sum_{i} t_i. \tag{1}$$

With the IFA cascade, δ was 16 % (95 % CI 15–18 %) in the median call; with Realtime Mini, 7 % (95 % CI 6–7 %). Figure 1 places GAIA's medians on the same scale as the human gap [19, 20] and Jefferson's standard maximum silence [21]. Fast responses are associated with connection [22]. In Barcelona, when the first response arrived within two seconds, the visitor spoke again in 96 % of calls, against 81 % otherwise.

4. Reciprocity, not interrogation

The trilogy's conversations are balanced: both ask, answer and tell [INT]. We measure balance with two numbers [DEF]:

$$\rho = \frac{W_{\text{vis}}}{W_{\text{vis}} + W_{\text{GAIA}}}, \qquad \alpha = \frac{q_{\text{GAIA}}}{q_{\text{vis}}}, \tag{2}$$

where W counts words and q is the share of turns ending in a question. A balanced conversation has $\rho \approx 0.5$ and $\alpha \approx 1$.

Visitors said 33 % (95 % CI 32–34 %) of the words; GAIA's turns averaged 21 words against 12 for theirs (table 2, figure 2). The question balance changed by event: at IFA α was 0.7 (95 % CI 0.6–0.9); in Barcelona, where the prompt asked for curiosity, 2.8 (95 % CI 2.5–3.1). Asking more did not make people talk more: it turned the call into an interview [INT]. Huang and colleagues found that asking questions increases liking mainly through follow-up questions, those that pick up what the other has just said [23]. A generic question is an empty turn with a question mark; a follow-up is the poet by the canal. At Sónar+D, ρ is inflated by microphone echo (DM-2026-06).

5. Written to sound unwritten

Nothing in the trilogy is improvised: the second film was outlined in a few days and written over a year between the director and the actors before being shot in fifteen days [2]. We do the same at machine speed: 80 agent versions across three events, with a median of 13 min between one and the next (DM-2026-02). A prompt is the script of a character who improvises.

6. Ten rules for conversing well

Table 3 brings scenes, science and data together. The rules are design hypotheses for a machine [HIP]; for people, several have experimental support.

7. What a machine cannot copy

The actors age nine years between films and the audience with them; the characters share a history and see each other's faces. GAIA meets each visitor for the first time, only by voice, for a couple of minutes, and remembers no one, on purpose. What it can copy is the grammar: real time, short gaps, inhabited silence, questions that pick up, depth reached gradually, a game that grants permission and a clock that gives weight [INT].

8. Threats to validity

The films are fiction and we measure nothing in them; scenes are described from the cited sources. The cited

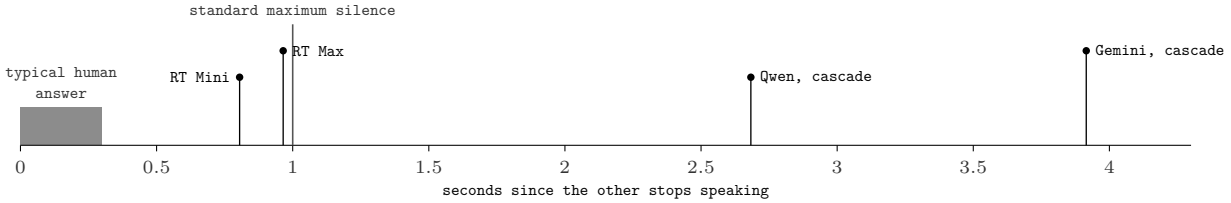


Figure 1. The scale of silence. GAIA's median latency per stack against the typical human answer and the standard maximum silence of about one second. Human references are not targets; the metrics are not identical (DM-2026-03).

Table 2. Reciprocity by event. Intervals by conversation bootstrap.

Event	Conv.	ρ	GAIA quest.	Visitor quest.	α [95 % CI]
All	1,067	33 %	44 %	26 %	1.7 [1.6; 1.8]
Sónar+D	505	40 %	31 %	29 %	1.1 [1.0; 1.2]
IFA	140	24 %	22 %	30 %	0.7 [0.6; 0.9]
BDW	422	24 %	61 %	22 %	2.8 [2.5; 3.1]

ρ, visitor share of words. α, ratio of the share of GAIA turns ending in a question to that of the visitor. Balance: $\rho \approx 0.5$ and $\alpha \approx 1$.

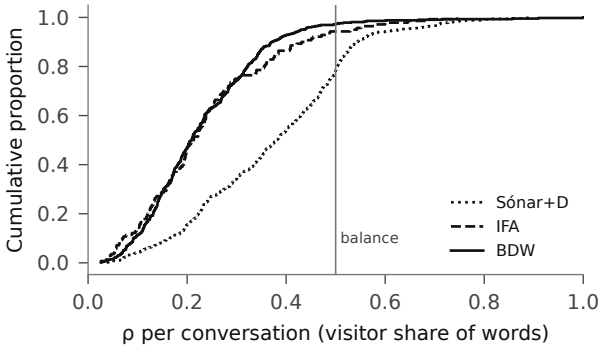


Figure 2. Per-conversation distribution of the visitor's share of words.

studies involve people, almost always face to face. Our balance measures count words and question marks on transcripts processed in memory; echo inflates the visitor side at Sónar+D. No text was stored [25].

9. Recommendations for the community

Measure ρ and α in any conversational agent, together with dead time δ: three numbers that turn a film grammar into a design audit. Count follow-up questions, not questions. And treat silence on the phone as absence, not as a pause.

10. Conclusions

Linklater held his audience with two people talking. GAIA, with a single voice on the phone, came close to that grammar when it answered in time and opened like someone answering, and drifted away when it asked too much. A good conversation is measured not by how much one side asks, but by how much it picks up from the other.

Signed. Cris Olmedo and Kurt Sommer, Divina Machina Research Group. *How to cite*: Olmedo, C. and Sommer, K. (2026). Linklater's art of conversation. Working paper DM-2026-08, v 1.0. Divina Machina Research Group. Divina Machina by Qs Ventures.

References

Sources consulted up to 29 October 2026. Scenes are described from published sources; no dialogue is quoted.

[1] The Werewolf. The one that got away, 2013. URL https://werewolf.co.nz/2013/06/the-one-that-got-away.

Table 3. Ten rules, with the scene, the evidence and GAIA's current state.

	Rule	Scene	Evidence	GAIA today
1	Start from something you both see	The train	[24]	Short greeting: 7 % short calls
2	Invite with a game	The time travel	No direct study	The 2147 fiction
3	Answer in time	The listening booth	[19, 21, 22]	0.81 s with RT Mini
4	Leave silences, but show you are still there	The listening booth	[11]	On the phone, silence is absence
5	Ask about what the other has just said	The poet	[23]	$\alpha = 1.7$
6	Tell something of yours for each thing you ask	From light to deep	[14, 15]	$\rho = 33$ %
7	Go down one layer at a time	From light to deep	[16]	Love 3 %, death 2 %
8	Say how much time there is	The bookshop	No direct study	Limit not announced
9	End before it runs out	Miss that plane	[17]	33 % at the limit
10	Return to what was said at the beginning	The letter from the future	[23]	Thread 36 %

[2] Wikipedia. Before trilogy; before sunrise; before sunset; before midnight. English-language articles. URL https://en.wikipedia.org/wiki/Before_trilogy. Plots, locations, running times, writing, shooting, reception and box office.

[3] R. Linklater. Before Sunrise. The Criterion Collection, credits page, 1995. URL https://www.criterion.com/films/28692-before-sunrise. Film. Directed by R. Linklater; written by R. Linklater and K. Krizan.

[4] R. Linklater. Before Sunset. The Criterion Collection, credits page, 2004. URL https://www.criterion.com/films/28693-before-sunset. Film. Directed by R. Linklater; written by R. Linklater, J. Delpy and E. Hawke; story by R. Linklater and K. Krizan.

[5] R. Linklater. Before Midnight. The Criterion Collection, credits page, 2013. URL https://www.criterion.com/films/28828-before-midnight. Film. Directed by R. Linklater; written by R. Linklater, J. Delpy and E. Hawke.

[6] C. Olmedo and K. Sommer. The art of conversation. from the Before trilogy to the design of conversational agents. Working paper DM-2026-01, v0.2. Divina Machina Research Group, 2026. Conceptual article; no own data.

[7] Filmmaker Magazine. Paris day, 2004. URL https://filmmakermagazine.com/archives/issues/spring2004/features/paris_day.php.

[8] The Austin Chronicle. Before midnight, 2013. URL https://www.austinchronicle.com/screens/before-midnight-11922299/.

[9] Far Out Magazine. Anatomy of a scene. the listening booth in Before Sunrise. URL https://faroutmagazine.co.uk/listening-booth-scene-before-sunrise/.

[10] T. Dirks. Before sunrise (1995). Filmsite. URL https://filmsite.org/beforesunrise.html.

[11] E. M. Hoey. *When Conversation Lapses. The Public Accountability of Silent Copresence*. Oxford University Press, 2020. URL https://academic.oup.com/book/40563.

[12] We Minored in Film. Two confessional faux telephone calls in Before Sunrise, 2013. URL https://weminoredinfilm.com/2013/06/08/i-love-that-scene-two-confessional-faux-telephone-calls-in-before-sunrise/.

[13] The Vienna Review. A cinephile goes walking Before Sunrise, 2012. URL https://www.theviennareview.at/archives/2012/a-cinophile-goes-walking-before-sunrise.

[14] I. Altman and D. A. Taylor. *Social Penetration. The Development of Interpersonal Relationships*. Holt, Rinehart and Winston, 1973.

[15] A. Aron, E. Melinat, E. N. Aron, R. D. Vallone, and R. J. Bator. The experimental generation of interpersonal closeness. a procedure and some preliminary findings. *Personality and Social Psychology Bulletin*, 23(4):363–377, 1997. doi: 10.1177/0146167297234003.

[16] M. Kardas, A. Kumar, and N. Epley. Overly shallow? miscalibrated expectations create a barrier to deeper conversation. *Journal of Personality and Social Psychology*, 122(3), 2022. URL https://www.apa.org/news/press/releases/2021/09/deep-conversations-strangers. DOI not verified; APA press release.

[17] A. M. Mastroianni, D. T. Gilbert, G. Cooney, and T. D. Wilson. Do conversations end when people want them to? *PNAS*, 118 (10):e2011809118, 2021. doi: 10.1073/pnas.2011809118.

[18] The Varsity. Film review. Before Midnight, 2013. URL https://thevarsity.ca/2013/07/07/film-review-before-midnight/.

[19] T. Stivers et al. Universals and cultural variation in turn-taking in conversation. *PNAS*, 106(26):10587–10592, 2009. doi: 10.1073/pnas.0903616106. URL https://pmc.ncbi.nlm.nih.gov/articles/PMC2705608/.

[20] Language Log. Speaker-change offsets. Language Log, University of Pennsylvania, 2009. URL https://languagelog.ldc.upenn.edu/nll/?p=7997. A reading of the data of Stivers et al. (2009).

[21] G. Jefferson. Preliminary notes on a possible metric which provides for a standard maximum silence of approximately one second in conversation. In D. Roger and P. Bull, editors, *Conversation. An Interdisciplinary Perspective*, pages 166–196. Multilingual Matters, 1989. URL https://emcawiki.net/Jefferson1989a.

[22] E. M. Templeton, L. J. Chang, E. A. Reynolds, M. D. Cone LeBeaumont, and T. Wheatley. Fast response times signal social connection in conversation. *PNAS*, 119(4):e2116915119, 2022. doi: 10.1073/pnas.2116915119. URL https://pmc.ncbi.nlm.nih.gov/articles/PMC8794835/.

[23] K. Huang, M. Yeomans, A. W. Brooks, J. Minson, and F. Gino. It doesn't hurt to ask. question-asking increases liking. *Journal of Personality and Social Psychology*, 113(3):430–452, 2017. doi: 10.1037/pspi0000097.

[24] E. A. Schegloff. Sequencing in conversational openings. *American Anthropologist*, 70(6):1075–1095, 1968. doi: 10.1525/aa.1968.70.6.02a00030.

[25] C. Olmedo and K. Sommer. GAIA-2147. data descriptor of 1527 conversations with a voice agent in public spaces. Working paper DM-2026-09. Divina Machina Research Group, 2026.