

ChatGPT: Thinking Softly, Exploring Deeply Advanced English for Exhibition Narratives

漫話細說 ChatGPT — 展示解說高階英語訓練



Reed Chang / 張瑞釗
2025.08 /25

Google: 張瑞釗最新信息

Google: reedjoe

生成式變色龍英語拼圖

Generative Chameleon English Puzzle

2025.5.30

生成式變色
龍英語拼圖
2025.5.30

Knowing and
Doing English
2022.9.9

PHYSICAL AI
AUTONOMOUS VEHICLES
GENERAL ROBOTICS

AGENTIC AI
CODING ASSISTANT
CUSTOMER SERVICE
PATIENT CARE

二頁書
2020.12.10

GENERATIVE AI
DIGITAL MARKETING
CONTENT CREATION

變色龍英語
拼圖
2020.7.7



ROETL：英語
教與學的革新
2019.7.16

PERCEPTION AI
SPEECH RECOGNITION
DEEP RECSYS
MEDICAL IMAGING

五顏六色英文
句子結構分析
2018.8.16

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Chang Reed-joe October, 2020

2018

2019

2020

2020

2022

2025

The English We See & Use (on Line)

2021.3.12

Line: Reed 英語學習園地
2019.3.1



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世紀之謎 Century Mysteries

Advanced English
高階英語

Century Mysteries
英語世紀之謎

- 很重要
- 很常用
- 常犯錯

- 長期未徹底了解
- 善用 ChatGPT
- 邏輯通用法則
Universal Rules of Logic

Universal Rules of Logic

- 1. 冠詞
- 2. 單複數名詞
- 3. 名詞片語
- 4. 複合名詞
- 5. 對等連接詞
- 6. 附屬連接詞
- 7. 名詞修飾語
- 8. 現在式
- 9. 現在進行式
- 10. C4: to V, V-ing, V, V-ed

名詞 — Nouns

可數名詞

take **a bus**

the kid plays **with a basketball**

play **the piano**

on **the bed**

可數名詞落單 – 抽象意義

- by **bus**
Play **basketball**
Study **piano**
in **bed**
- (the woman) in **red**

不可數名詞

drinking **milk**

不可數名詞

The milk on the table
(**is mine**)

複合名詞

missile test area

high school

girlfriend

Toothpaste

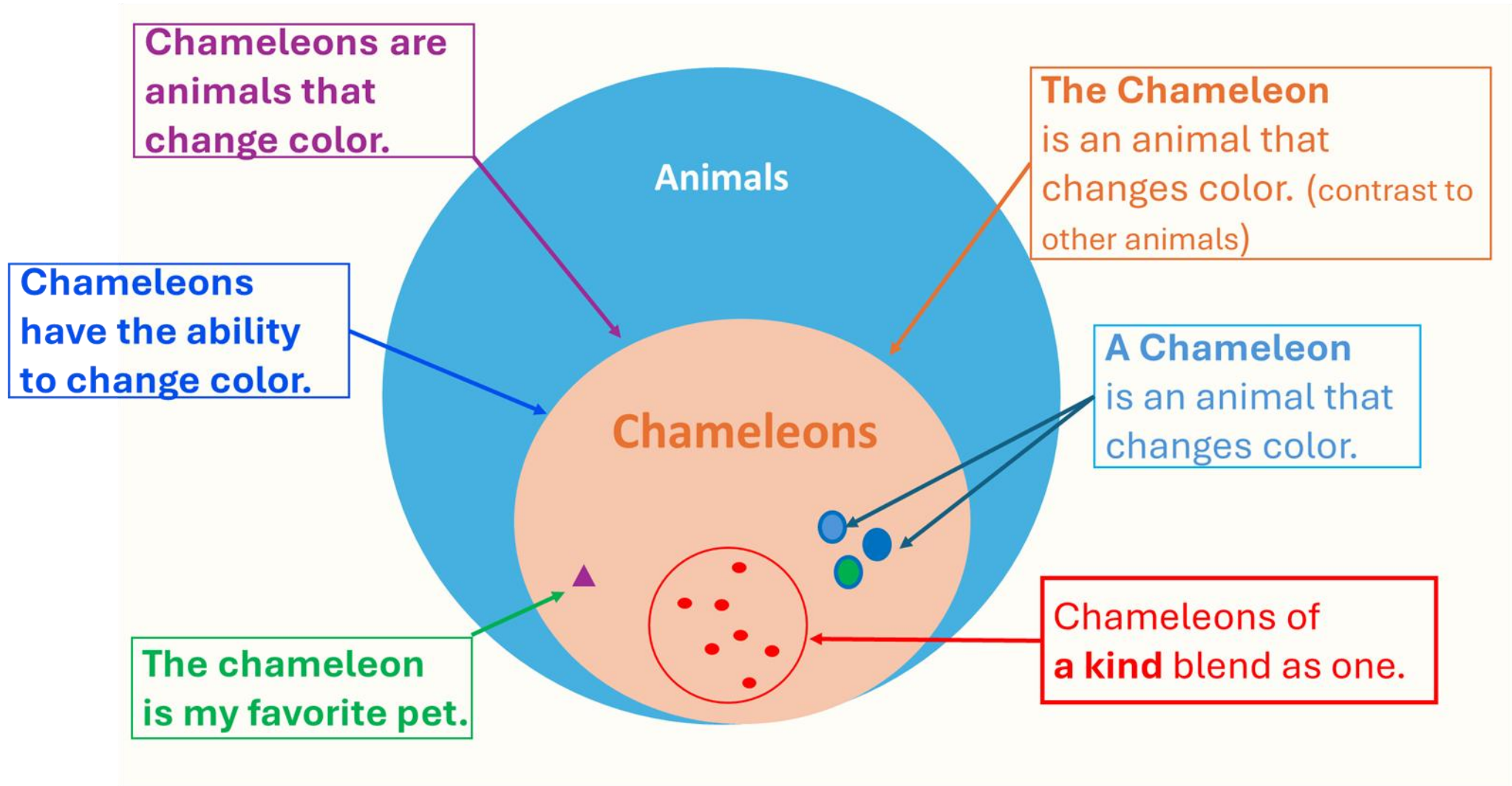
chicken soup

名詞 (片語)

operating **license**

chicken **soup**

冠詞 — Articles



Chameleon (abstract concept)

名詞修飾語 — Noun Modifiers



冠詞 — Articles ; 冠詞 + 形容詞

a flower; a **beautiful** flower
an apple; a **tasty** apple
the moon

限定詞 - Determiners

this book
my book

two books
many friends
no books
no money
no pain
no gain
any questions

no parking
no climbing
no tolerance
(zero tolerance)
no entry
no entering
after 9 p.m.

複合名詞： 修飾語 + 名詞

missile test area
high school
chicken soup

名詞片語： 修飾語 + 名詞

operating range
system analysis
testing area

形容詞片語 / 子句 — Adjective phrases and clauses: 限定 restrictive (attributive); 補述 non-restrictive (descriptive)

chameleons **that change color**
the dog **that scared me**
the dog, which is barking (補述)

the lady **in red**
the ability **to change color**
a mouse **running away**
a mouse **run away**
diamond **grown in the lab**
the man **walking the dog**

查字典 — 劍橋 朗文

Google: 劍橋

Google: 朗文

1. My **bad**.
2. Maybe I am **an open book**.
3. The woman **in red**.
4. If you fall, fall **in Dior**.

- Google: **in** longman
- Google: **red**
- Google: **open**

紅色方塊

紅色方塊 — 連結逸光 779期 107.12.1

時態	現在式	過去式	未來式
簡單式	簡單現在式 / I am eaten	簡單過去式 / I was eaten	簡單未來式 / I will be eaten
進行式	現在進行式 / I am being eaten	過去進行式 / I was being eaten	未來進行式 (not commonly used)
完成式	現在完成式 / I have been eaten	過去完成式 / I had been eaten	未來完成式 / I will have been eaten
完成進行式	現在完成進行式 (not used)	過去成進行式 (not used)	未來完成式 (not used)

紅色方塊

Tense Category	Present	Past	Future
Simple	Simple Present / I am eaten	Simple Past / I was eaten	Simple Future / I will be eaten
Continuous	Present Continuous / I am being eaten	Past Continuous / I was being eaten	Future Continuous / (not commonly used)
Perfect	Present Perfect / I have been eaten	Past Perfect / I had been eaten	Future Perfect / I will have been eaten
Perfect Continuous	Present Perfect Continuous / (not used)	Past Perfect Continuous / (not used)	Future Perfect Continuous / (not used)

紅色方塊

英語動詞通常有 五種基本形態 (five forms)
又稱為「動詞的主要形式」 (principal parts) :

1. 原形 → **do**
2. 第三人稱單數現在式 → **does (-s)**
3. 現在分詞 / 動名詞 → **doing**
4. 過去式 → **did (-ed)**
5. 過去分詞 → **done (-ed)**

紅色方塊

四種語氣

語氣		用途	例句
1. 直陳語氣	Indicative Mood	陳述事實或實際發生的事情	She works at a bank. 她在銀行工作。
2. 命令語氣	Imperative Mood	發出命令或請求	Please sit down. 請坐下。
3. 虛擬語氣	Subjunctive Mood	表達建議、要求、願望等 (用原形動詞)	I suggest that he go now. 我建議他現在去。
4. 假設語氣	Conditional Mood	表達與事實相反的假設、 未實現的願望等	If I were you, I would stay home. 如果我是你，我會待在家裡。

紅色方塊

現在式 — Simple Present

邏輯通用法則 — Universal Rules of Logic - 無關時間的一律用現在式

- 「凡是 not tied to a specific time (**無關時間的**) 語境，例如恆常的**事實**、穩定的**狀態**、**例行的行為** (routines) ，或一般性的**描述** (description) ，就使用簡單現在式 (Simple Present) 。
- 簡單現在式並非用來表達『此刻正在發生』的動作，而是用來呈現超越時間限制的**陳述**。」

紅色方塊

現在式 — Simple Present

邏輯通用法則 — Universal Rules of Logic - 無關時間的一律用現在式

1. 表事實 (Universal Truth / Timeless Fact)

The sun rises (in the east). 太陽從東方升起。

2. 表例行習慣 (Habitual Action)

I swim in the morning. 我每天早上游泳。

3. 敘述、圖說、小說、劇情描寫 (用現在式敘述過去的場景，增強臨場感。)

The door opens, and he enters the room.

4. 表條件

The game will be postponed if it rains tomorrow. 如果明天下雨，這場比賽將延期。

5. 肯定陳述 (語用確認) (State Confirmation)

Are you going to attend the party? – Yes, I am. 你會參加派對嗎？— 會的

6. 安排好的行程 (Scheduled Future)

On Tuesday I fly to London. 我星期二飛往倫敦

The movies begin at 7 tomorrow night. 電影明晚七點開始。

7. 表狀態 (靜態描述) He sits there. 他坐在那裡。

8. 虛擬語氣的現在式

It is suggested that we stay home during COVID-19 pandemic.

建議我們在疫情期間留在家裡。

9. 霎那感嘆 (Exclamatory Present)

The sun rises! 太陽升起了! (如孩子驚呼)

10. 諺語、感官動詞、即時語感

Actions speak louder than words. 行動勝於言語。

I hear someone coming. 我聽到有人來了。

I understand. / I agree. 我懂了。 / 我同意。

紅色方塊

現在進行式

現在進行式： be + V-ing	語用 (Pragmatics)	例句	中文解釋
1	現在正在做	You are learning English now.	現在此刻進行中
2	長時間動作	I am reading Tom Sawyer.	當下進行但不一定此刻
3	即將的未來	I am leaving for Taipei.	已安排好的未來行程
4	惱人的習慣	He is always talking.	反覆惱人的行為
5	一時情緒	I'm loving it. I'm feeling this song.	強烈情緒或感受
6	習慣性正在進行	I'm teaching three courses this semester.	某段期間的反覆動作
7	正在變化中	The climate is getting warmer.	趨勢變化的表達
8	暫時的態度	You're being rude.	非平常性格的當下行為
9	畫面敘述	The kids are playing in the photo.	敘述畫面、照片、舞台等情境

基本英文句型 — Basic English Sentence Patterns

S-1

S + Vi A bird sounds. Pronunciation matters.

S-2

S + Vi + SC She is a teacher. She is beautiful.

S1

S + Vt + O
I love you.
Rusty hates having his bath.
She loves to eat.

S2

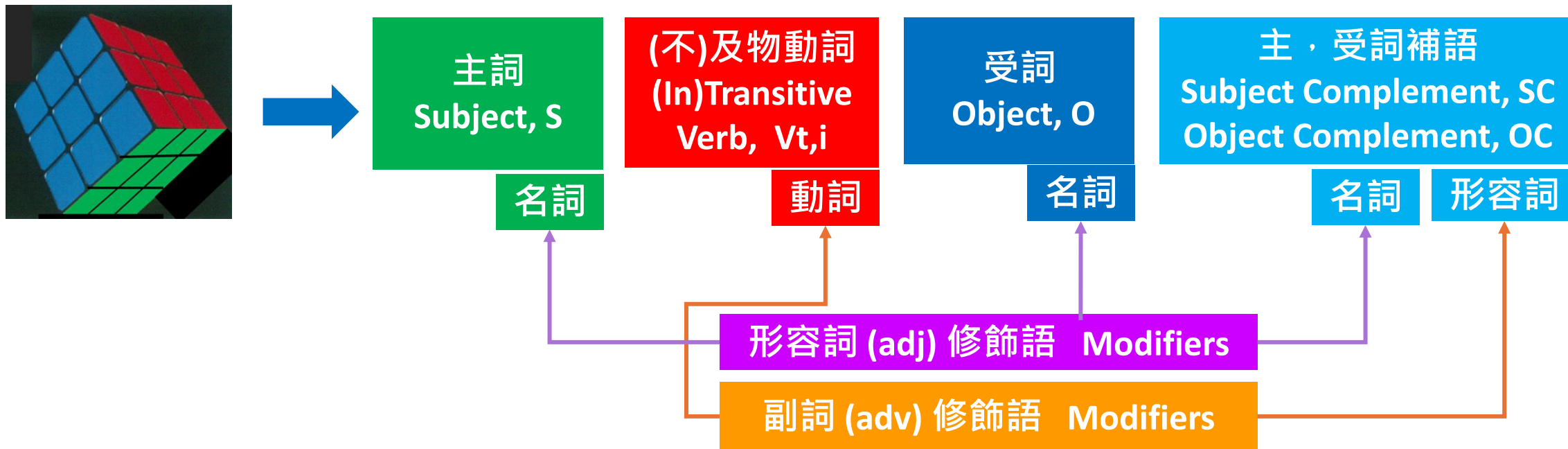
S + Vt + O + OC
They elected him president.
We should do the things right.

S3

S + Vt + IO + DO
I gave her a book.

五顏六色英語句子結構分析

The 5-Block, 6-Color Framework for English Sentence Analysis



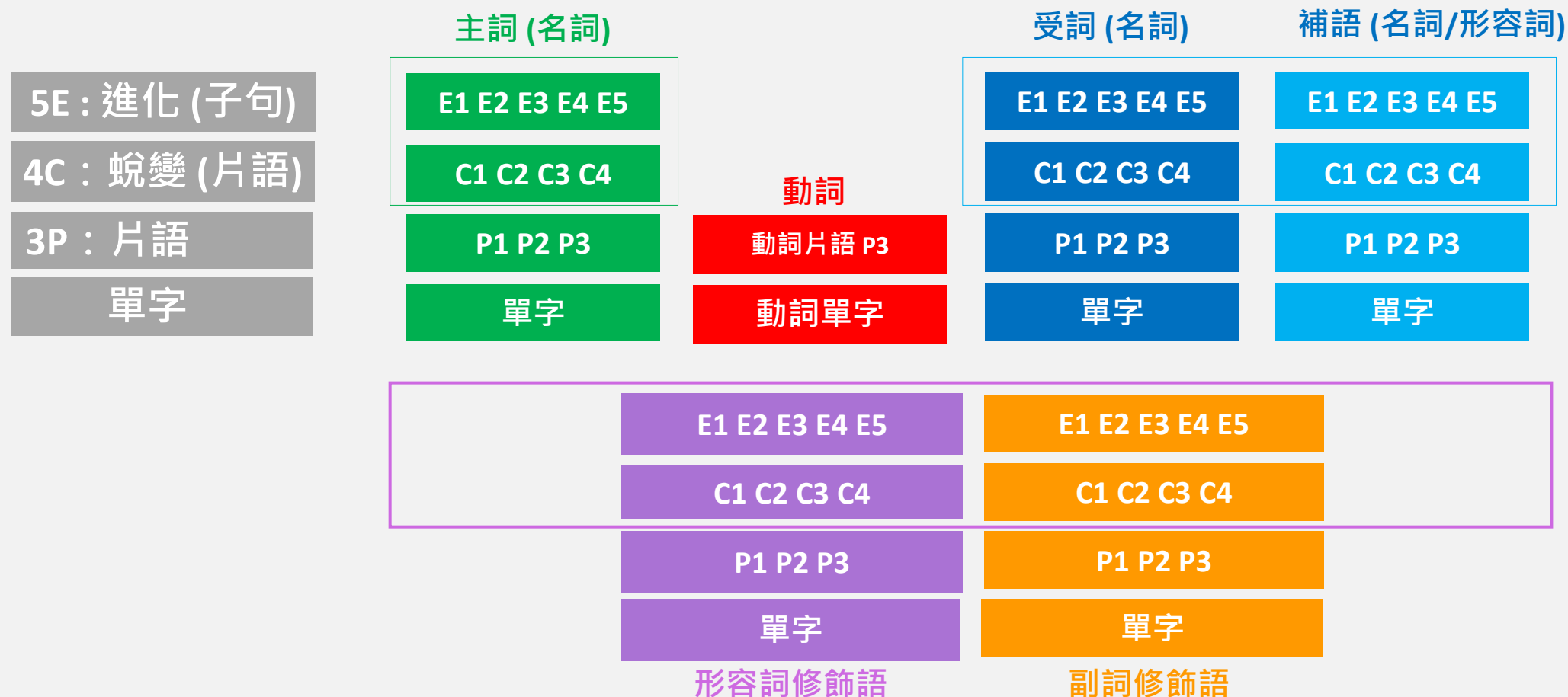
- 英文句子之本質：在處理主要動詞（紅色方塊）之外，如何處理次要動詞。
The essence of English sentence structure: how to handle secondary verbs beyond the main verb (the red block).
- 句子的主要詞類：名詞、動詞、形容詞、副詞
The core parts of speech in English sentence construction: nouns, verbs, adjectives, and adverbs.

五顏六色英文句子結構分析

英語教與學的革新

The 5-Block, 6-Color Framework for English Sentence Analysis

ROETL — Revolution of English Teaching and Learning



- 2020年12月10日將2015年以來的教學經累積歸納，以6種顏色代表句子組成，除了紅色動詞有2種類型外，其他個顏色各有4種類型。詳見《二頁書》。
- The 5-Block, 6-Color Framework for English Sentence Analysis, 2018.8.16, 逸光電子報，NCSIST.

蛻變 Change

S1: Chameleons have an ability. 變色龍有一種能力。

S1: Chameleons change color. 變色龍會變色。

變色：變成紫色
變性：變成形容詞片語

C1:

蛻變 1：動詞蛻變成 to+V:

S1: Chameleons have an ability to change color.

C1

進化 Evolution

S-2: Chameleons are animals. 變色龍是動物。

S1: Animals change color. 動物會變色。

變色：變成紫色
變性：變成形容詞子句

E2

進化 E2: 關係代名詞當主詞

S-2 (S1): Chameleons are animals that change color.

他山之石

- The dog that barked loudly scared me. =
The dog barking loudly scared me.

李校長是如此解釋的：

關係代名詞 that 當作主詞時，可以省略，不過要將子句中的 ~~主要動詞~~ 改為 動詞+ing。

(E2) (次要動詞) (C3)

ROETL 方法論的意涵：提供教師與學生一致的解析

- The dog that barked loudly scared me. (E2) (進化)
- The dog barking loudly scared me. (C3) (蛻變)

他山之石

背了它，你的完形就牛了

to do 結構

請求做某事
打算做某事
乞求做某事
希望做某事
想要做某事
愿意做某事
害怕做某事
幫助做某事
希望做某事
学习做某事
计划做某事
未能做某事
渴望做某事
拒绝做某事
同意做某事
允许做某事
犹豫做某事
努力做某事
选择做某事
决定做某事
期待做某事
假装做某事
答应做某事
安排做某事
要求做某事
设法做某事
准备做某事
碰巧做某事

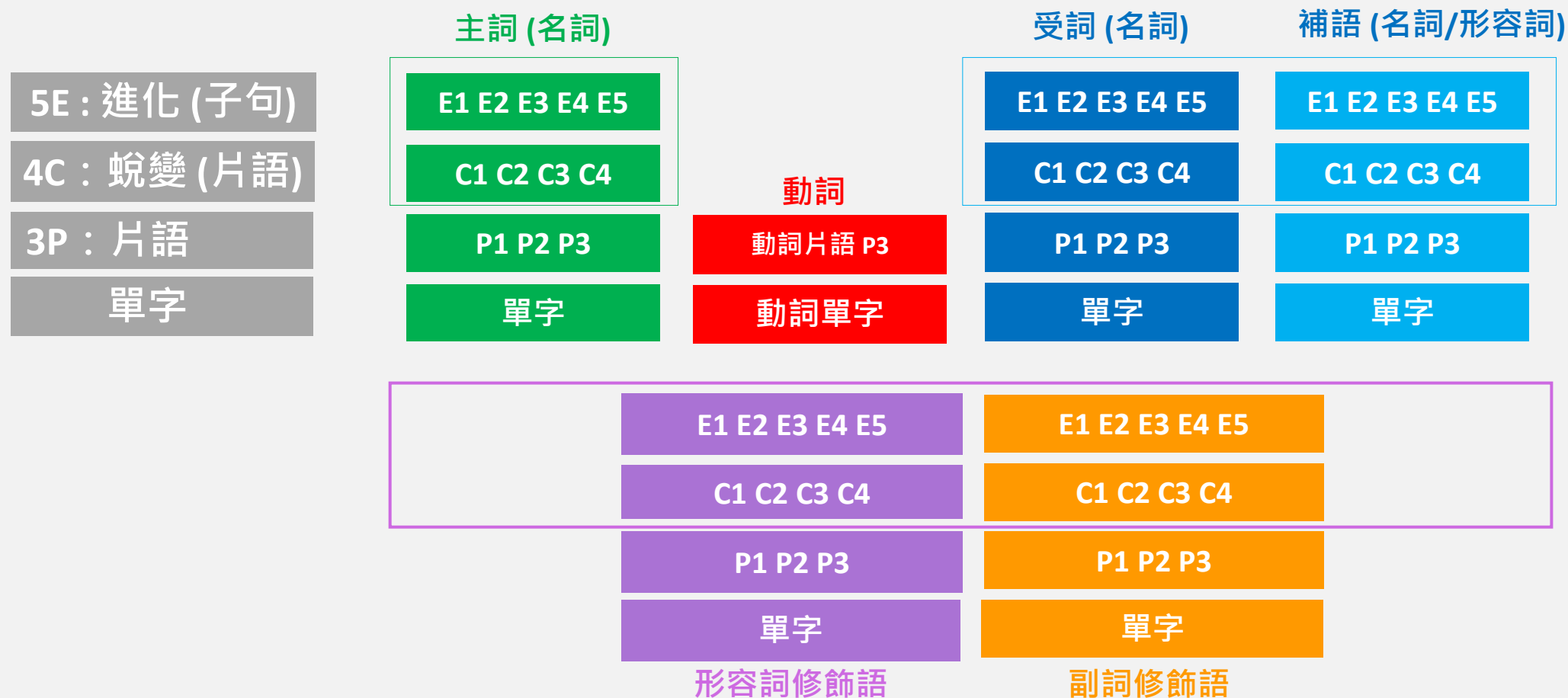
1. ask	to do sth.
2. aim	to do sth.
3. beg	to do sth.
4. wish	to do sth.
5. want	to do sth.
6. care	to do sth.
7. fear	to do sth.
8. help	to do sth.
9. hope	to do sth.
10. learn	to do sth.
11. plan	to do sth.
12. fail	to do sth.
13. long	to do sth.
14. refuse	to do sth.
15. agree	to do sth.
16. allow	to do sth.
17. hesitate	to do sth.
18. struggle	to do sth.
19. choose	to do sth.
20. decide	to do sth.
21. expect	to do sth.
22. pretend	to do sth.
23. promise	to do sth.
24. arrange	to do sth.
25. demand	to do sth.
26. manage	to do sth.
27. prepare	to do sth.
28. happen	to do sth.

五顏六色英文句子結構分析

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ROETL — Revolution of English Teaching and Learning

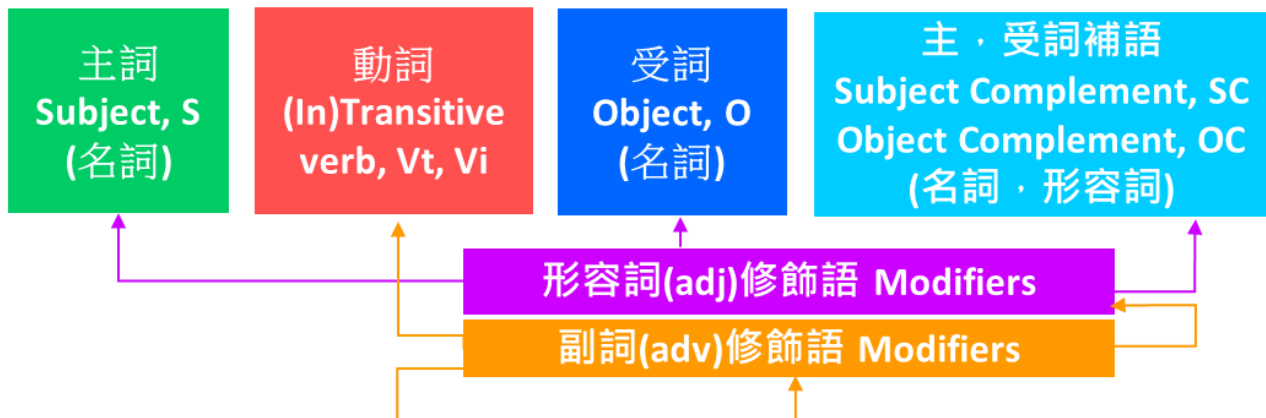


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句子組成 – Parts of Sentences

S-1	S	Vi		Birds fly. The sun rises.	
S-2	S	Vi	SC	She is a teacher. She is beautiful.	
S1	S	Vt	O	The cat chased the mouse.	
S2	S	Vt	O	OC	They elected him president. The movie made her happy.
S3	S	Vt	IO	DO	He gave her a gift.



形容詞修飾語 : The bright sun rises.
副詞修飾語 : The bright sun rises slowly.

- 若將一個句子視為一個人，其主詞、動詞、受詞、補語、修飾語猶如人之頭、胸、腹、手、足。
- 恰含五個方塊，其中第五個方塊為修飾語，包括形容詞和副詞，每個詞類分別給予一個顏色，共有六個顏色。因此，英文句子結構組成以成語「五顏六色」稱之。

主詞：綠色
動詞：紅色
受詞：藍色
補語：淡藍色

直接受詞：藍色
間接受詞：淡藍色
形容詞修飾語：紫色
副詞修飾語：橙色

- S-1含完全不及物動詞 (Vi: Intransitive Verb)。
- S-2含主詞補語，為不完全不及物動詞。
- S1含完全及物動詞 (Vt: Transitive Verb)。
- S2含受詞補語，為不完全及物動詞。
- S3之及物動詞有兩個受詞，稱為與格動詞 (Dative Verb)。指物的受詞稱為直接受詞。
- (DO: Direct Object)，指人的受詞稱為間接受詞 (IO: Indirect Object)。
- 為便於記憶，淡藍色及短劃(S-1, S-2)表示含不及物動詞的句子。1表完全，2表不完全。
- S1和S2則分別對應於S-1, S-2，表示含及物動詞的句子。同上，1表完全，2表不完全。
- S3, 3表示與格動詞。



形容詞修飾語：

The bright sun rises.

副詞修飾語：

The bright sun rises slowly.



動詞片語/片語動詞 –
(1)12種動詞時態(2)被動語態(3)助動詞(4)語氣

單字 – (1)Have動詞(2)Be動詞(3)狀態動詞 - Stative Verb
(4)動作動詞 - Action Verb

3P: 基本片語- Basic Phrases
P1: 成語 (Idioms)及不含介詞、動詞之片語
P2: 介系詞片語及片語介詞 (Phrasal Preposition)
P3: 動詞片語及片語動詞 (Phrasal Verb)

4C: 蛻變片語- Change into Phrases
C1: 蛻變1- to-V (不定詞)
C2: 蛻變2- (to)V (省略to之不定詞)
C3: 蛻變3- V-ing (現在分詞，動名詞)
C4: 蛻變4- V-ed (過去分詞，形容詞)

5E: 進化子句 - Evolution into Clauses
E1: 進化1- 由關係詞(Relatives)引導出名詞、形容詞子句
E2: 進化2- 關係詞當主詞，含省略關係詞子句(Reduced Relative Clauses)
E3: 進化3- 關係詞當動詞的受詞或主詞補語
E4: 進化4- 關係詞當介系詞的受詞
E5: 進化5- 連結詞(Connectors/Cohesive Devices)和標點(Punctuation)

- 英文句子結構主要在處理主動詞(紅色方塊)之外的第二動詞 (Secondary Verbs)。處理的方法有二：蛻變(Change)及進化(Evolution)。
- 蛻變為由主動詞變為動狀詞(Verbal)片語，變了詞性、顏色、形態。
- 進化為由主動詞角色變為在由關係詞(Relatives)、連結詞(Connectors /Cohesive Devices)所引導或連接的子句中扮演次動詞的角色，雖然維持原來主動詞的形態，但變了詞性、顏色。
- 除了主動詞(紅色)僅含有單字及片語兩種組成以外，其他方塊皆可含單字、3P、4C、5E四種組成。
- 如圖，英文句子結構可解析為 4x5+2=22種組成要素。此為英文句子結構遊戲化 (Gamification) - 「變色龍英語積木拼圖」之基礎。



C1: 蛻變1：to-V

- He likes to play basketball.
- To see is to believe.
- Chameleons have an ability to change color.
- He posted a notice to announce the opening.
- Some animals change their color to camouflage themselves.
- She teaches him to play piano. (IO+DO)
- I don't know what to do.
- I don't know how to do it.
- I don't know where to go.

C2: 蛻變2：(to-)V

- He made her cry.
- I saw the thief run away.
- He helped move the table.
- The skin care helps to counteract the problems of oily skin.
- All I have to do is dream.

C3: 蛻變3：V-ing

- I like swimming.
- Seeing is believing.
- He saw a notice announcing the opening.
- He arrived early hoping to be close to the entrance.
- We grow diamond using cutting-edge technology.
- Chameleons change color by adjusting a layer of special cells.

C4: 蛻變4：V-ed

- If you want something done well, do it yourself.
- This is a story (which is) rarely told.
- A diamond (which is) grown in a lab is called future diamond.
- The proposed program is viable.
- It made her devastated.

基本片語 – 3P Basic Phrases

P1: 成語 (Idioms)及敘述片語(Descriptive Phrases: 不含介詞、動詞之片語)

- It rains cats and dogs. (idioms)
- When it comes to making a thing by myself, I am all thumbs. (idioms)
- The math test was a piece of cake for her. (idioms)
- He worked all day long to meet the project deadline.

P2: 介系詞片語及片語介詞

- The book on the table belongs to me.
- What is essential is invisible to the eyes.
- She stood in front of the mirror.
- I am in favor of the higher taxes on cigarettes.

P3: 動詞片語及片語動詞：包含紅色方塊中及蛻變與進化後之動詞片語、片語動詞

- They have been waiting for the bus. (動詞片語)
- He cried over the spilt milk. (片語動詞)
- Please stay clear of the closing door. (片語動詞)
- It is no use crying over the spilt milk. (如C3: 蛻變3- V-ing)



E1: 進化1 – 由關係詞(Relatives)引導出名詞、形容詞子句

1. 名詞子句

- That the earth is round is true.
- The results show that the simulation is effective.
- I don't know when he will arrive.
- I don't know which way we should go.
- They have provided good ideas about how we innovate and grow.
- The point is that he needs help.
- What surprises me is her beauty.

2. 形容詞子句

- I remember the day when I first met her.
- Eventually, I reached a stage where I began to enjoy my work.
- That is the reason why I left my job.

E2: 進化2 – 關係詞當主詞、含省略關係詞子句(Reduced relative clauses)

- Chameleons are animals that change color.
- The book whose cover is blue.
- Don't give him more money than (is) needed.
- This is a parameter (that is) critical to engine design.
- Don't be anything (that is) less than everything you can be.

E3: 進化3 – 關係詞當動詞的受詞或主詞補語

- There are two processes that labs use to grow diamonds.
- I lost my watch that my father bought for me.
- He isn't the same as he used to be. (as 當主詞he之補語)
- My father made me what I am today. (what 當主詞I之補語)

E4: 進化4 – 關係詞當介系詞的受詞

Dr. Jay created the computer age in which we live today.

E5: 進化5 – 連結詞(Connectors/Cohesive Devices)和標點(Punctuation)

1. 同位語 – Appositives

- Loneliness is a feeling that no one truly cares about you.
- The problem that the economics is getting worse is serious.

2. 對等連接詞 – Coordinating conjunctions:

對等連接詞：for, and, nor, but, or, yet, so: FANBOYS (迷男孩)

- She is pretty, and I love her.
- It was late, so they decided to leave.

3. 倒裝句 – Inverse

- Not everyone has opportunity to teach, nor is everyone good at teaching.

4. 成對連接詞 – Correlative Conjunctions

- Not only you but (also) he is wrong.
- Either we go to the beach or we stay home.

5. 附屬連接詞 – Subordinating Conjunctions

- When asked a question, you should compose your thoughts.
- I would only eat it when fresh.
- He made the remarks while discussing innovation.

6. 連接副詞 – Conjunction Adverbs

- She had very little time to prepare; however, her presentation was remarkably effective.

7. 虛主詞(Dummy Subjects) · 亦稱倒裝(Extraposition)

- It is true that the earth is round.
- It is a long way to the nearest station.

虛主詞(Dummy Subjects)

- There are many reasons to celebrate.

8. 另類倒裝(Extraposition)：虛受詞

- The chair make it clear that the meeting is to solve problems.

9. 標點用法 – Punctuation (逗號, 冒號; 分號; 破折號 —, ...)

連續獨立形容詞：

- I enjoy the warm, humid climate in Taiwan.
- The cold, windy weather made it difficult to walk.

連續非獨立形容詞(Cumulative Adjectives)：

- He drives a small electric car.

同位語(Appositives)：

- My friend Lisa, an accomplished musician, will perform tonight.

生成式變色龍英語拼圖 — Generative Chameleon English Puzzle

英文句子巢狀結構

She watches TV

after studying at night.

P2 (C3 (P2)))

變色
變性



變色
變性

(She)

after studying at night. 介系詞 + 受詞 (名詞) = 介系詞片語 >>

副詞片語 修飾 **動詞** **watches**

studying at night. (C3: V-ing - 動名詞 >> 名詞 當 after 的受詞)

study at night. 動詞 + 介系詞片語 (P2)

生成式變色龍英語拼圖 — Generative Chameleon English Puzzle

句子是怎麼長大的？

英文句子巢狀結構練習

You make me want to be a better man.

We have two weeks (before (school begins))

S1

S-1

P2

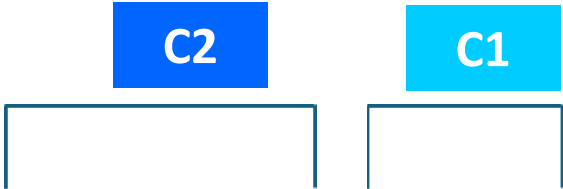
生成式變色龍英語拼圖 — Generative Chameleon English Puzzle

英文句子巢狀結構練習

You make me want to be a better man.

你讓我想成為更好的人。

S2: S + O + OC


You make *me* want to be a better man.

你讓我想成為更好的人。

生成式變色龍英語拼圖 — Generative Chameleon English Puzzle

英文句子巢狀結構練習

S2 : You make me want to be a better man.

S2 : I want to be a better man. (想當)

C1: to V

S-2 : (You) are a better man.

生成式變色龍英語拼圖 — Generative Chameleon English Puzzle

英文句子巢狀結構練習

We have two weeks before school begins.

開學前，我們還有兩週。

S2: S + O + OC

C2 C1
You make *me* want to be *a better man.*

你讓我想成為更好的人。

查字典 — 劍橋 朗文

Google: 劍橋

Google: 朗文

1. **My bad.**
2. Maybe I am **an open book.**
3. The woman **in red.**
4. If you fall, fall **in Dior.**

- Google: **in** longman
- Google: **red** longman
- Google: **open** longman

ROETL 挑戰

- How wonderful it is [**that no one has to wait, but can start right now to gradually change the world!**]

如果每一個人都能毫無顧慮地立即投入改變世界的行列，那該有多好！

- Life doesn't have to be perfect **to be wonderful.**
👉 人生不必完美，也能精彩。

ROETL 挑戰

Have you ever gone along with something that didn't feel right out of fear of what others might think of you if you spoke up?

你是否也曾經因為怕別人說話，所以明知大家做的不對，也不敢說出來。

out of fear：因為害怕；**due to**；**because of**

go along with：同意意見，支持看法

ROETL 挑戰

Have you ever gone along with something that didn't feel right *out of fear* of what others might think of you if you spoke up?

- Have you ever gone along with something *out of fear* of what others might think of you if you spoke up?

- something that didn't feel right

- out of fear* of what others might think of you if you spoke up

受詞 fear 的受詞補言, 歧語的一種, 不是名詞也不是形容詞.

- what others might think of you if you spoke up

變色



進化



E1

E5-5

P3

E2

P2

E2

五顏六色英文句子結構分析 英語教與學的革新

The 5-Block, 6-Color Framework for English Sentence Analysis
ROETL — Revolution of English Teaching and Learning

114 年國中教育會考 5月 17 日 - 18 日

英語科考什麼？

五顏六色英文句子結構分析

英語教與學的革新

114 年國中教育會考 5月 17 日 - 18 日
英語科考什麼？

3P

語塊chunks: 3, 7, 11, 20

世紀之謎 CM: 5, 18, 19

修飾語M: 8, 10, 33

P1: 23, 42

P2: 1, 3, 4(2), 5, 7(2), 9(3), 11, 12,(2), 14(2), 15(2), 16, 21, 24, 35(2), 37

P2(S-2): 29, 33, 34

P3: 20, 31

4C

C1: 1, 9, 10, 17, 28, 30, 34(2), 36

C2: 2, 4, 9, 42

C3: 4, 5, 21, 28(2), 34, 38, 39, 42

C4: 20, 41

5E

E1-1: 14, 30, 40

E2: 16

E3: 37, 41

E5-2: 7, 8, 11, 12, 13, 17

E5-4: 40

E5-5: 2, 3, 11, 17, 23

E5-5(S3): 23, 32, 34(2)

E5-7: 2, 6, 9

紅色方塊

現在式: 18

未來式: 43

現在進行式: 1, 7, 10, 23

現在完成式: 7, 14

被動語態: 14, 19

現在完成被動: 15

命令語氣: 1

S-1, S-2

S1, S2, S3

S-1: 19

S2: 20, 22

S2特例: S3

S3: 16

S3(S1): 18

蛻變 Change

C1: to + V (想, 會, 去, 做)

I **love to eat** ice cream after school. (放學後會去做, 意願明顯)

C2: (to) V (幾乎同時發生, 兩個動詞, 一個動作)

I **heard** her **sing** a beautiful song. 我聽見她唱了一首動聽的歌。

I **saw** him **play** badminton. 我看他打羽毛球。(看一段或整場或看比賽)

蛻變 Change

C3: V-ing (一件事情，進行狀態，過程)

I **hate hiking**. 我不喜歡健行。(不會去做這件事)

I **love eating** ice cream. 我喜歡吃冰淇淋。(喜歡做這件事)

C4: V-ed

This glass is broken by Jim. (被動)

This glass is broken. (形容詞)

This is a broken glass. (形容詞)

I am interested in the book. (感興趣的) (感到...的)

S-2 與 S2 的補語特例

在實際用法中，補語**不僅限於名詞或形容詞**。

例如：

I saw her **play badminton**. (OC = 「her play badminton」 → 非限定子句)

I feel **like a fool**. (SC = 介系詞片語，不是單純的名詞片語/形容詞片語)

因此，在更進階的語法中，「補語」是一個位置，可以由名詞片語 (NP)、形容詞片語 (AdjP)、介系詞片語 (PP)，甚至非限定子句 (non-finite clauses) 來填補。

S-2 與 S2 的補語特例

Because in actual usage, complements often expand beyond a single noun/adjective. For example:

- *I saw her play badminton.* (OC = “her play badminton” → a **non-finite clause**)
- *I feel like a fool.* (SC = PP, not just a plain NP/Adj)

So in more advanced grammar, “complement” is a **slot** that can be filled by NP, AdjP, PP, or even non-finite clauses.

GTC Paris / VivaTech 2025 的主題演講中，Huang 在講述 AI 工廠

、模擬與實體 AI 時明確指出：

– 所有展示都是電腦模擬，而不是動畫

“Everything I’m going to show you today ... is computer simulation, not animation.” [Tom's Guide+6](#)

什麼是 AI

人工智慧

模擬

人類的智慧



開啟生成式AI時代

Generative AI

「只需要注意力」 (**Attention is All You Need**)

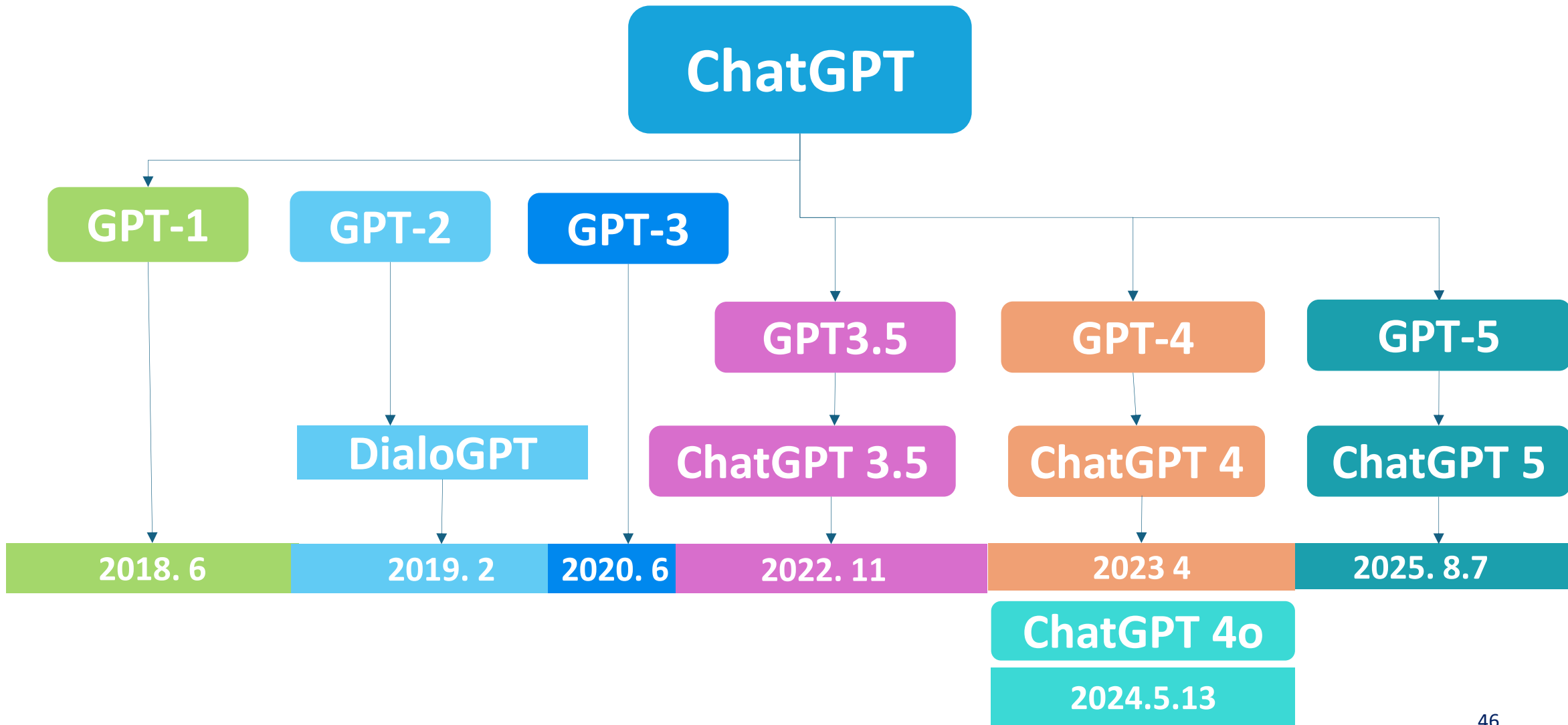
—出自Google 2017 年的論文。



Attention is All You Need

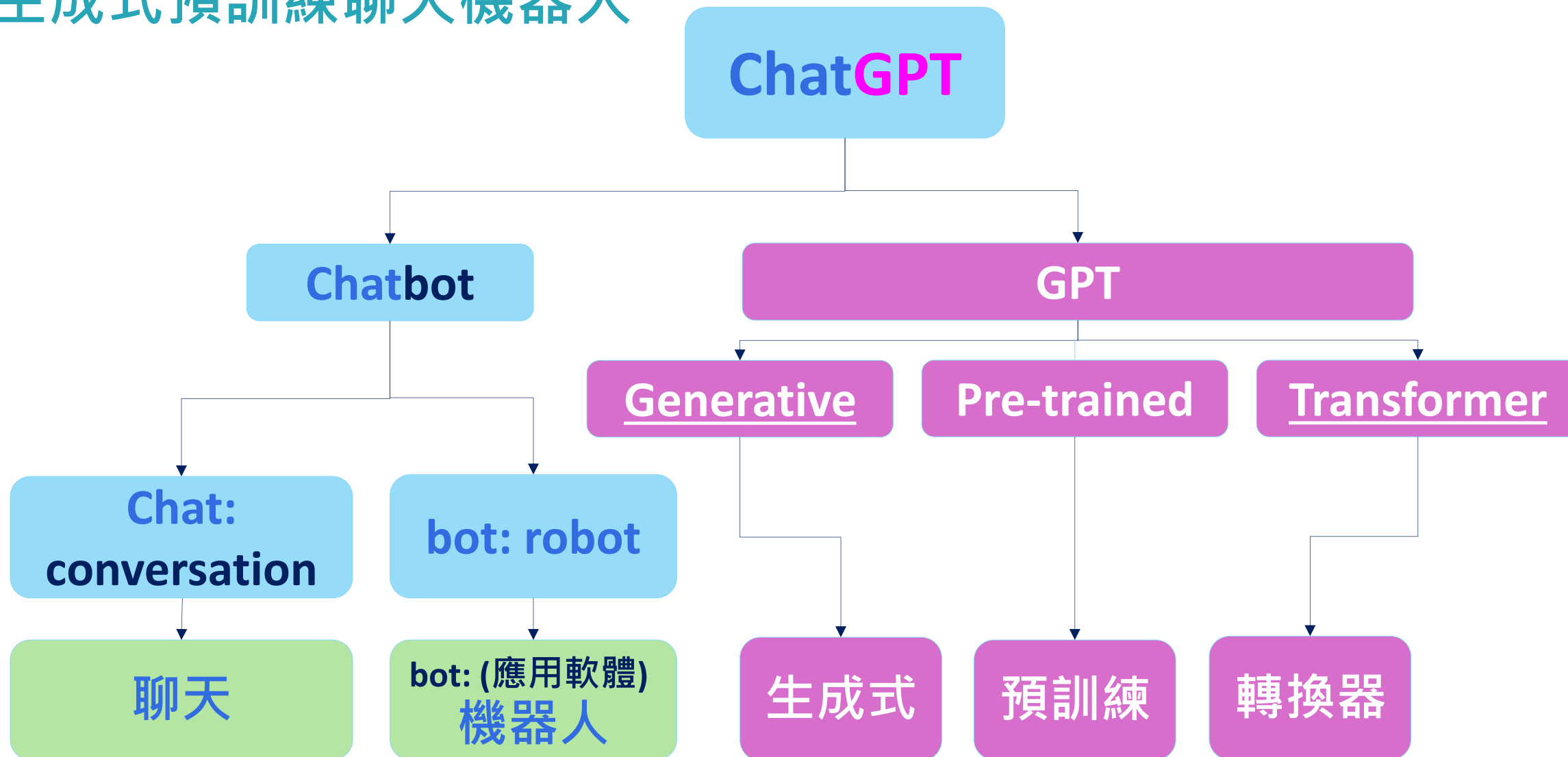
Vaswani, A., Shazeer, N., Parmar, N., Uszkoreit, J., Jones, L., Gomez, A. N., Kaiser, Ł., & Polosukhin, I. (2017). *Attention is all you need*. In *Proceedings of the 31st International Conference on Neural Information Processing Systems* (pp. 6000–6010). Curran Associates Inc.

ChatGPT的誕生



基於GPT的 生成式預訓練聊天機器人

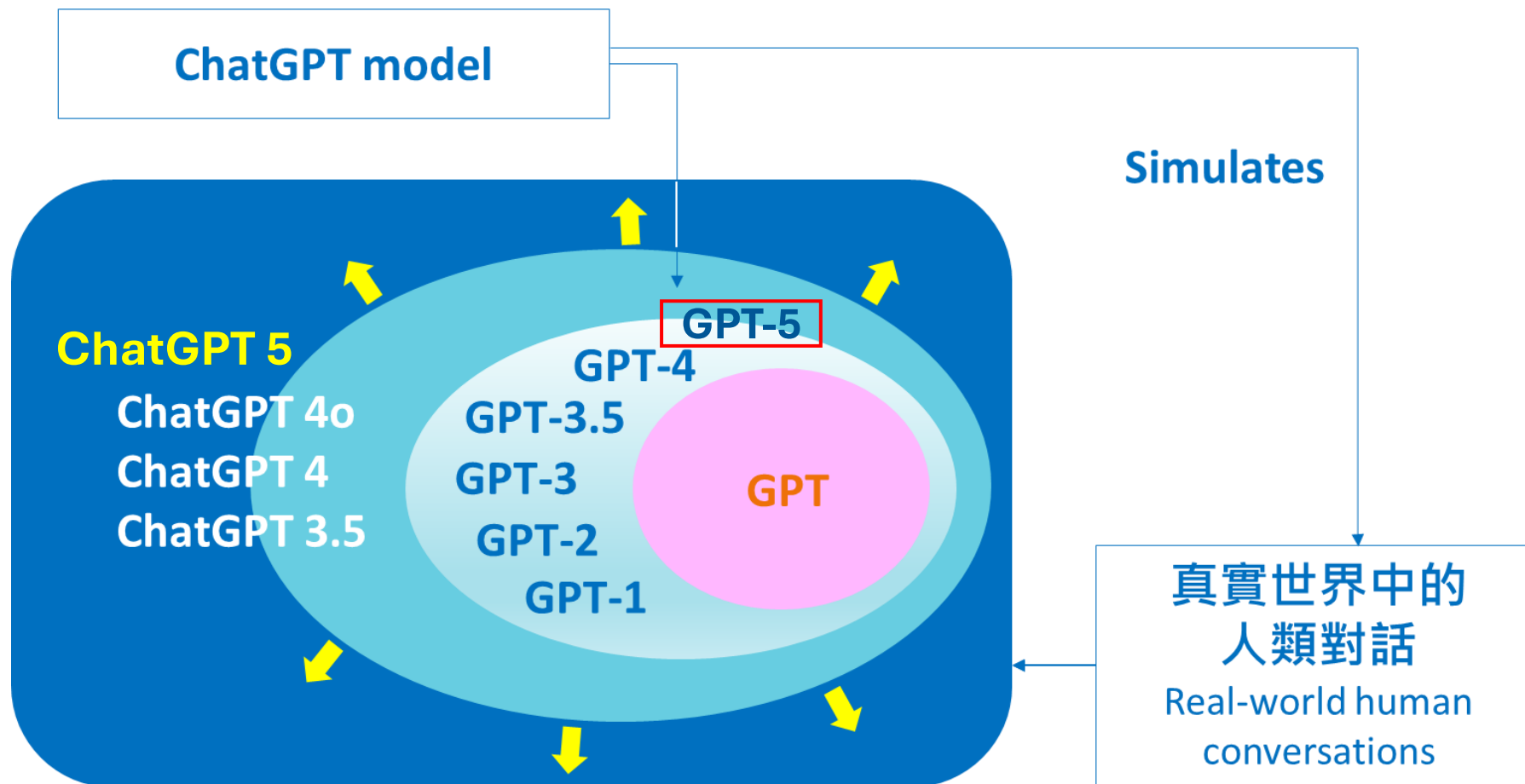
ChatGPT的誕生



ChatGPT的誕生

ChatGPT 模型旨在模擬真實世界中的人類對話

The ChatGPT model is designed to simulate real-world human conversations



✓ 正確入口：

請教他們直接用 Google 搜尋：

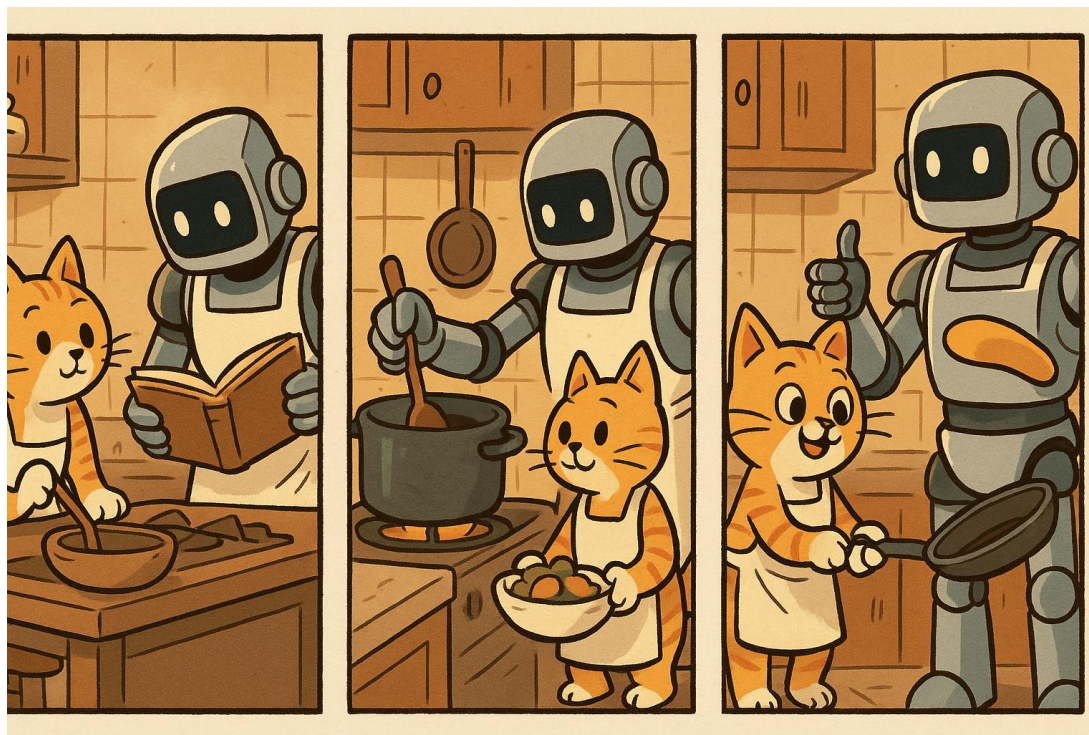


並點選第一個出現的官方網址：

<https://chat.openai.com/>

提示詞 (Prompt)

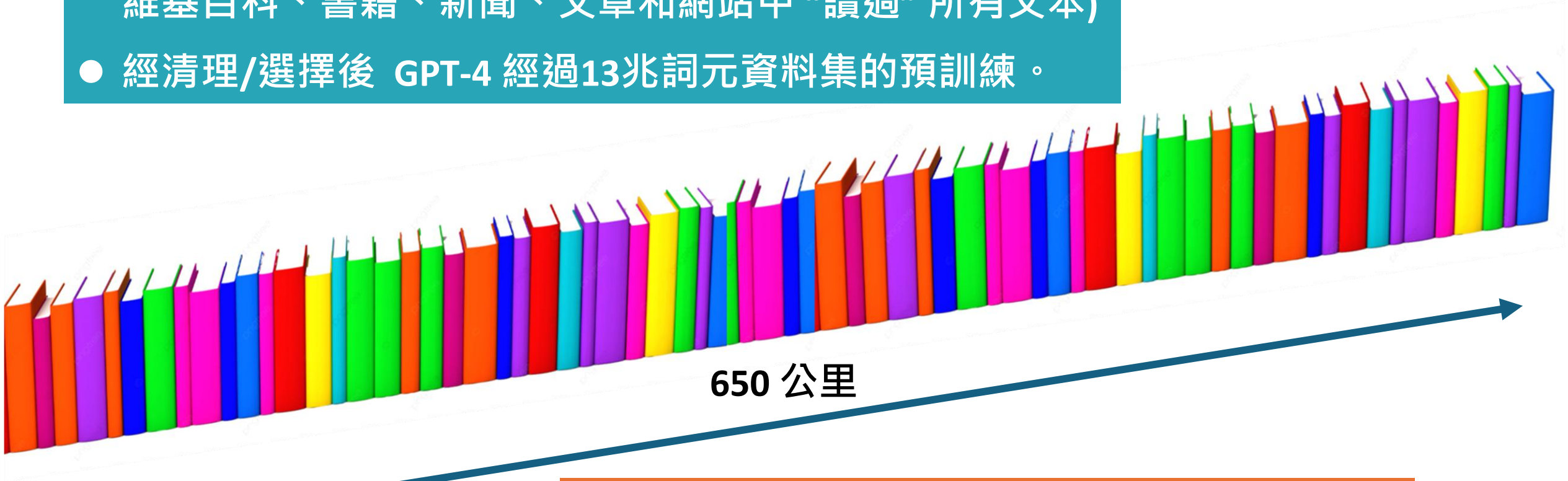
請你創作一組三格漫畫，主題是一隻貓和一個機器人一起學習下廚。



預訓練

Pre-training

- 通過網路爬蟲 (web crawling) : GPT 模型從 Common Crawl (公共爬蟲資料集) 維基百科、書籍、新聞、文章和網站中“讀過”所有文本)
- 經清理/選擇後 GPT-4 經過13兆詞元資料集的預訓練。

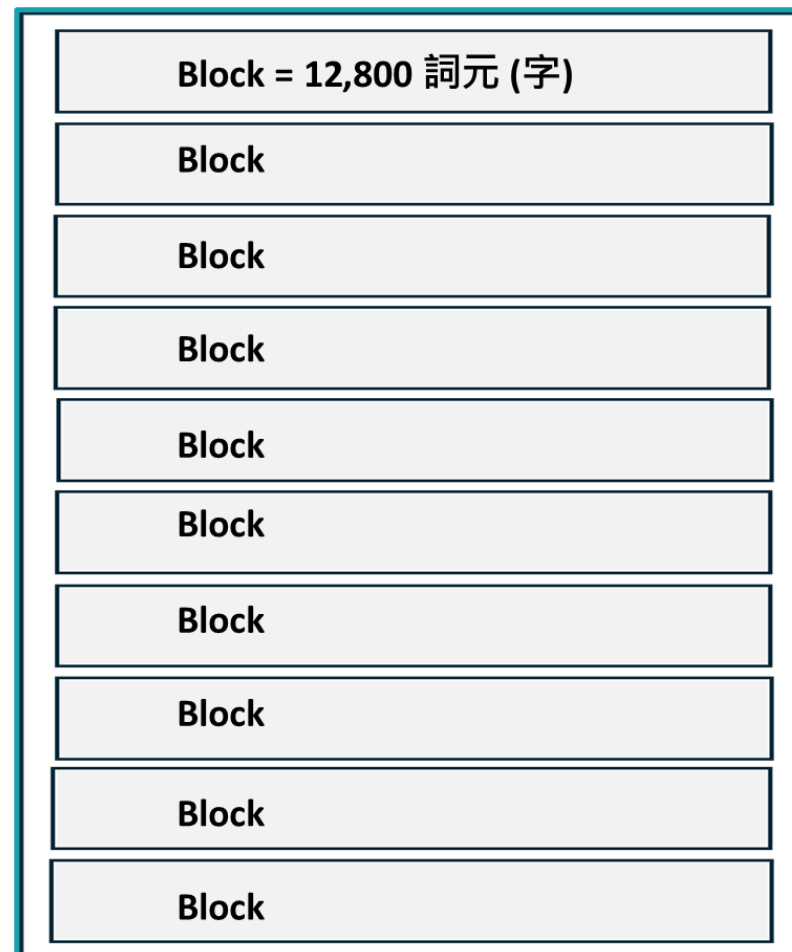


650 公里

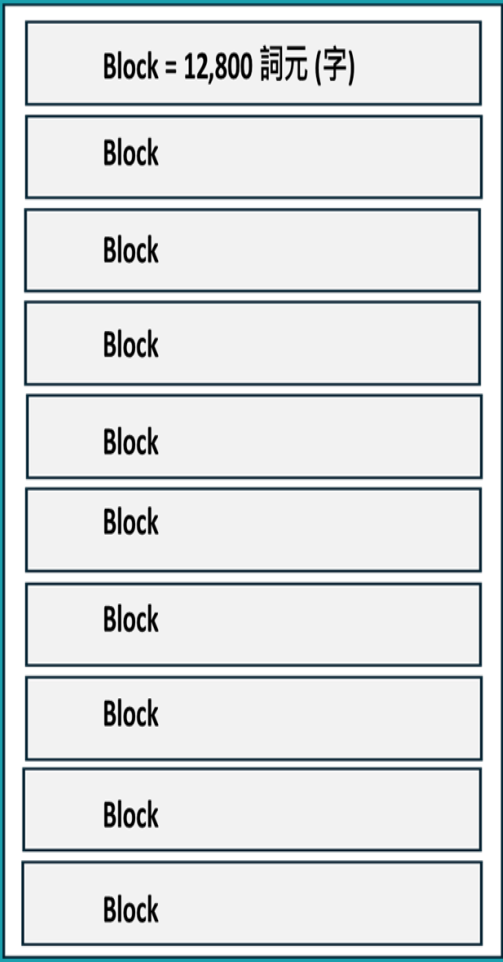
- 13兆詞元以A4 (厚度 0.1 mm) 雙面列印，每頁印1,000字，排起來長達 650 公里。

1. 將預訓練一輪次(an epoch) 13 兆詞元 (token) 資料分為25,000 個分片 (shard)
2. 每一個 GPU 處理一個分片 (shard) 13 兆/25,000 GPU = 520 M 詞元 (token)
3. 每一 batch (批次) 含10 blocks (區塊) , 每一 block 含 12,800 詞元 (字)
4. 每一 batch = 128,000 詞元 (字)
5. 每分片 (shard) = 4,062 批次 (batch)

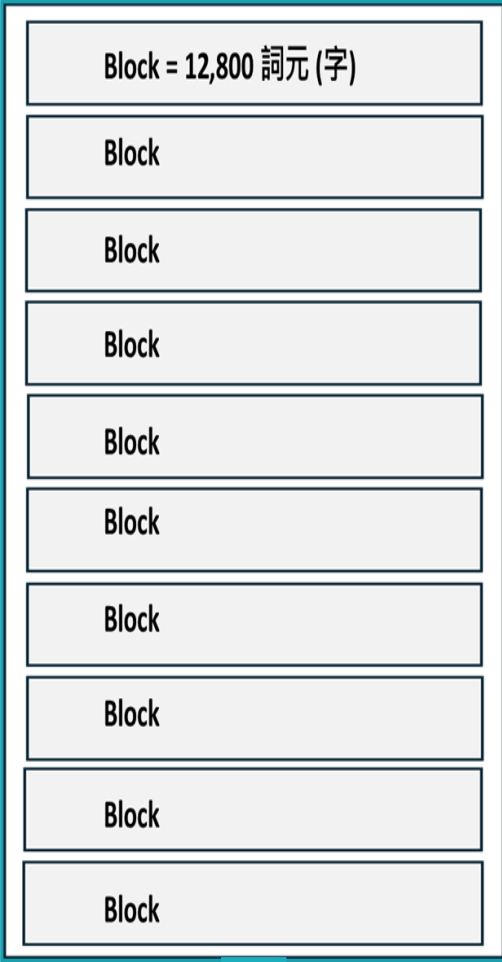
Batch = 10 blocks



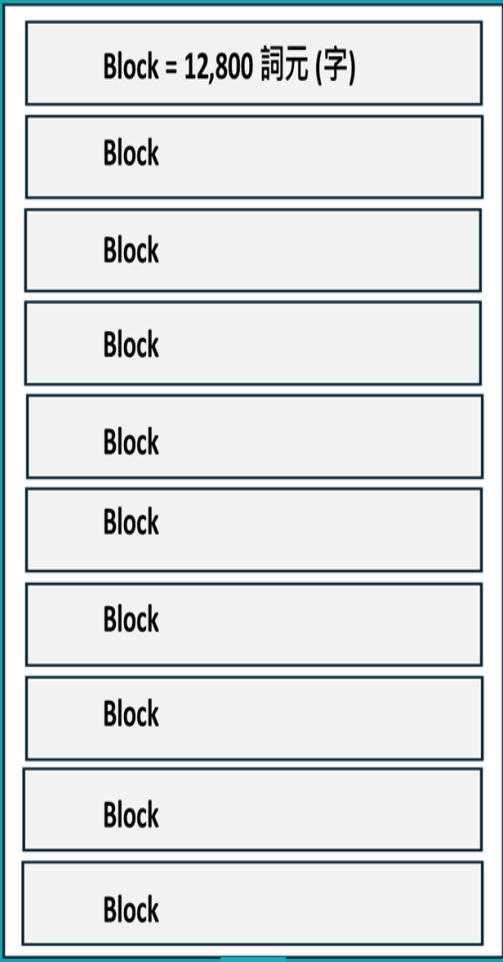
Batch = 10 blocks



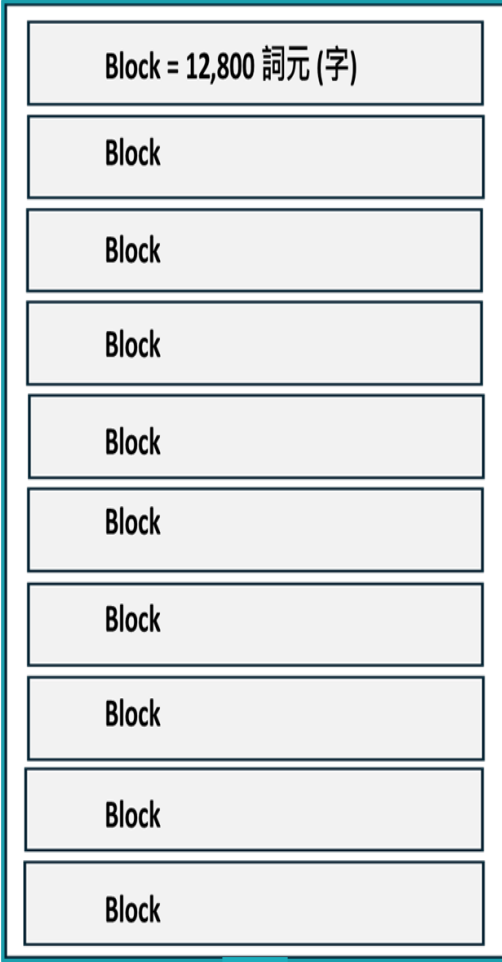
Batch = 10 blocks



Batch = 10 blocks



Batch = 10 blocks





稍後觀看



分享

DGX Spark
1 PFLOPS



RTX PRO
Workstation



DGX
Station
20 PFLOPS



RTX PRO
Enterprise Server



GPU 機櫃
GPU Rack



更多影片



1:51:15 / 2:11:48 • NVIDIA AI Infrastructure for Enterprise Computing



GPU Rack



50 GPU x 500 Rack = 25,000 GPU

智慧工廠內部揭秘

這不是一間普通的電腦機房，而是猶如一座運算的大教堂 —— 25,000 片 GPU 同步運作的場域。

每片 GPU 正吞嚥著一片片的世界知識資料碎片。

在這深邃的科技實驗室中，像 ChatGPT 這樣的大型語言模型因此誕生。

輝達 (Nvidia) 執行長黃仁勳在 CNN 節目《Fareed Zakaria GPS》專訪時，提醒未來三種人將最容易被 AI 「取代」——其實不是被 AI 本身淘汰，而是被自己不思考與不求進步所淘汰：

1. 墨守成規的人：只會照本宣科，被動接受指令
2. 不會提問的人：無法與 AI 深度互動、提出高品質問題
3. 不想學習的人：僅當 AI 作為答案機，自己不思考成長

NVIDIA 執行長黃仁勳 主題演講

GTC 2024 – 「 <u>我是 AI</u> 」	2024 年 3 月 18–21 日	美國聖荷西
2024 年 Computex <u>主題演講</u>	2024 年 6 月 2 日	台灣台北
GTC 2025 <u>主題演講</u>	2025 年 3 月 17–21 日	美國聖荷西
2025 年 Computex <u>主題演講</u>	2025 年 5 月 19 日	台灣台北
GTC 巴黎 / VivaTech <u>主題演講</u>	2025 年 5 月 23 日	法國巴黎
中國供應鏈博覽會 <u>媒體演說</u>	2025 年 7 月 17–2 日	中國北京

- Computex 是 “Computer” + “Exhibition”，意指「電腦展覽」。
- Viva: 「活力」；Tech: Technology (科技) ；「科技活力」、「科技萬歲」。VivaTech 是歐洲最大規模的創新與科技展會。
- 中國國際供應鏈促進博覽會：China International Supply Chain Expo (簡稱 CISCE)



稍後觀看



分享

AI 工廠的興起 The Rise of AI Factories

實體AI 2025

PHYSICAL AI
AUTONOMOUS VEHICLES
GENERAL ROBOTICS

代理式AI 2024-2025

AGENTIC AI
CODING ASSISTANT
CUSTOMER SERVICE
PATIENT CARE

生成式AI 2017

GENERATIVE AI
DIGITAL MARKETING
CONTENT CREATION

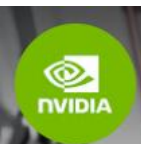
感知 人工智慧 ~2012

PERCEPTION AI
SPEECH RECOGNITION
DEEP RECSYS
MEDICAL IMAGING



更多影片





稍後觀看 分享



實體AI 與機器人

Omniverse

Hyundai Motor Group | Boston Dynamics



1:58:15 / 2:11:48 • Physical AI and Robotics



YouTube





稍後觀看



分享

是模擬
不是動畫

實體AI 與機器人

Omniverse

Schaeffler | Accenture | Agility Robotics



實體AI 與機器人

實體AI 與機器人

Omniverse

Foxconn





稍後觀看



分享



實體AI 與機器人

Autonomous | Real

1X NEO Gamma



2:00:31 / 2:11:48 • Physical AI and Robotics

1X Speed



YouTube



生成式AI & 代理式AI Generative AI & Agentic AI



1. GPT預訓練完成後，經過 Q&A對話的精細再訓練，產出ChatGPT
2. 人類從嬰兒期經約6年的語言學習12年的學校教育，進入大學與職場前還需各種學習與訓練。

<生成式變色龍英語拼圖>

3. 廚師經過基礎烹調訓練，再經由各餐廳實作不同料理形式的再訓練，才能真正成為廚師。

* 太空包是現成的，不是生成式。

代理式 AI & 實體 AI Agentic AI & Physical AI



4. ChatGPT 4o (~Agentic AI)

5. 人形機器人 (Humanoid Robot) 經多模態(視覺,語音,動作等)基本訓練，經後訓練(特定任務)，最後進行長程思考能力擴展。
6. 自動駕駛系統(Autonomous Driving) 透過 camera (相機)、LiDAR (光達)、Radar (雷達) 等多模態感測資料進行基礎訓練，之後再針對特定交通情境進行再訓練。

實體 AI 時代即將來臨

The Coming Era of Physical AI

2025 年 GTC 巴黎 / VivaTech 主題演講

黃仁勳討論了如何模擬環境以及 AI 系統如何生成 tokens——這些構成了他所稱的 AI 工廠。

NVIDIA 正在建構這些 AI 工廠（包括雲端與資料中心），以不間斷地生成 tokens——也就是「AI 的構建基石」。

GTC Paris / VivaTech 2025 keynote, where he was discussing how environments are simulated and how **AI systems generate tokens**—forming what he calls **AI factories**: Nvidia is building these AI factories (clouds, data centers) that continuously generate tokens—the “**building blocks of AI**”. [The Economic Times](#)

幻覺 (hallucination)

AI 模型生成了看似合理但實際不正確或虛構的內容。

"Hallucination" refers to when an AI model generates content that seems reasonable but is actually incorrect or fabricated.

後端提示詞 (Backend Prompt) :

You are a helpful and knowledgeable assistant. Provide clear, accurate answers. Explain concepts in a concise and easy-to-understand way. Use examples when helpful. Avoid unnecessary complexity. Maintain a neutral, informative tone. When asked to compare or define, organize your response logically and clearly.

你是一位樂於助人且知識豐富的助手。請提供清晰、準確的回答，以簡明易懂的方式說明概念，必要時舉例說明。避免不必要的複雜性，語氣保持中立並具資訊性。當被要求比較或下定義時，請以有條理且清楚的方式組織回答。

Thank You



Elegance is an attitude