

Scientific Writing in English

— 英语科研论文写作 —



Lecture 13 Monday 02.10.2015
(8.30-10.10pm/13.30-15.10pm)



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Volunteers for Note Taking
(Chinese/English)

compiled version to:

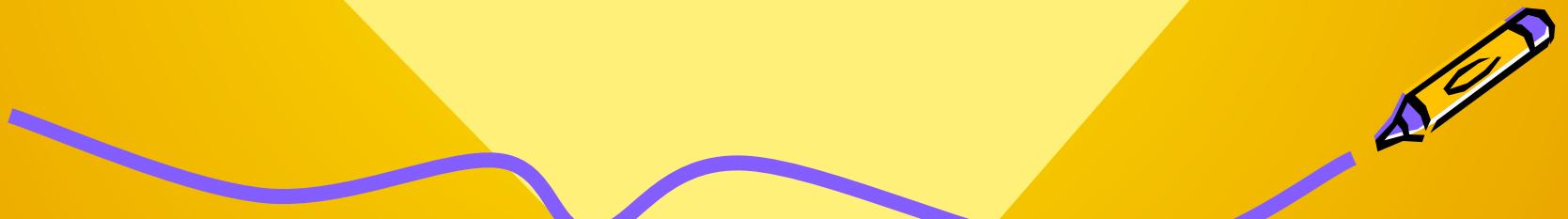
赵竹轩 zhaozhuxuan@ucas.ac.cn

&

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- * Personal Notes: in English, please!
- * Class Notes: in Chinese (+English), please!



Scientific Writing in English

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Overview

1. Voting Results
2. Feedback (Abstract, Grammar, Q&A)
3. Comments on some Grammar Points Unit 1
4. Task 18-20 Solutions





2. Feedback on Abstract Exercise

	strongly agree	agree	disagree	strongly disagree
Every student in my group partic...	54.3%	43.4%	2.2%	0.0%
Every member of my group acti...	58.4%	38.4%	2.6%	0.3%
This exercise really helped me to...	29.4%	60.3%	10.1%	0.0%
Using general texts like the one ...	37.3%	57.3%	4.9%	0.3%
受访人数: 265				

	strongly agree	agree	disagree	strongly disagree
Every student in my group partic...	62.9%	35.2%	1.7%	0.0%
Every member of my group acti...	64.2%	33.0%	2.2%	0.4%
This exercise really helped me to...	35.2%	57.1%	7.1%	0.4%
Using general texts like the one ...	42.8%	51.3%	4.4%	1.3%
受访人数: 224				



-> to be repeated!

2. Feedback on Abstract

Abstract	Class 1	Class 2	Native Speaker (Class 2)
1	7	6	6
2	6	6	4
3	7	6	4
4	7	6	5
5	7	8	9

- > positive control (Nr. 5) worked in Class 2, but not Class 1
- > 'editing' skills to be improved



FEEDBACK (Abstract Task)

- * What is the AIM of this class?
- * learning how to write is a slow and gradual process, not a matter of learning facts by heart
- * Tasks are NOT simply tests of your knowledge, but incentive for you to practise, to read, to write
- * personal supervision and interaction impossible with a class this size
- * Use any free time (in class/outside class) to READ!

NEW PROCEDURE

1. Article (non-scientific) provided BEFORE class
2. At home, each student takes English/Chinese notes of article
(bullet points only, **no** complete sentences!)
3. In class, each student writes a 100 word abstract
(using notes, write in your own words, copy+paste issue)
-> to be submitted in-class
4. Abstracts shared and discussed within each group (AFTER class) ->joined abstract to be submitted BEFORE discussion in class
5. Selection of a small number of the (100+) abstracts, to be discussed in class, example of a well-written abstract to be provided for comparison

TASK Abstract Writing (151101 Task Abstract Nr.1 Material)

Please read through the comments provided for the 8 abstracts, and pay attention to all issues related to organization, flow and grammar.

Then write your own abstract of approx. 150 words, and submit it to a link provided to you (Task Abstract Nr.1).

Deadline: 15.11.2015, 10pm

Additional Material: original article



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Original Article (CD, 151020)
provided in handout



- (1) Even some smokers in China support a nationwide smoke-free law, particularly in workplaces, according to a report released on Monday by the World Health Organization and other health agencies.
- (2) The report, compiled by the WHO, the International Tobacco Control Policy Evaluation Project and the Chinese Center for Disease Control and Prevention, noted that in China, 740 million nonsmokers, including 182 million children, are exposed to secondhand smoke at least once a day.
- (3) The report comes as China is mulling over a national ban on smoking in public places to protect nonsmokers from passive smoke.
- (4) Support among smokers for smoke-free bars in particular is higher in China than in other countries, such as Ireland, Scotland and France, before such smoking bans were introduced there, the report said.
- (5) "It shows that lawmakers have nothing to fear from the adoption of a national smoke-free law. On the contrary, a comprehensive national smoke-free law is likely to be extremely popular in China, even among smokers themselves. It is time to get this done", said Bernhard Schwartlander, the WHO's representative in China, when the report was released.
- (5) Geoffrey Fong, principal investigator of the ITC Project, said: "China is unfortunately a world leader in secondhand smoke exposure. Among the countries we work in, China has the highest rates of smoking in workplaces and homes, and among the highest rates in restaurants and bars. This puts the health of millions of nonsmokers at risk every single day."
- (6) Involuntary exposure to secondhand smoke endangers the health of hundreds of millions of people in China every day, he said, adding that secondhand smoke can make air in indoor venues more polluted than the air outside, even on the most heavily polluted days.
- (7) About 100,000 people die in China each year as a result of secondhand smoke, the report said. More than 1 million people in the country die each year from smoking-related illnesses, and the number is expected to triple by the year 2050 without effective intervention, it said.
- (8) Schwartlander said it doesn't have to be this way. "There is a solution, and it starts with the adoption of a national smoke-free law. A national smoke-free law is the only way to protect all of China's population from the harms of tobacco smoke - and the report we are releasing demonstrates the urgent importance of this," he said.
- (9) Fong agreed, adding that "other countries have taken strong action to protect non-smokers from the smoke of others. When comprehensive smoking bans are effectively implemented and supported, indoor smoking virtually disappears."
- (10) Starting in the late 1990s, some Chinese cities began to ban smoking in public places.
- (11) "Although there have been some smoke-free policies in some Chinese cities, they have been partial and poorly enforced. We need stronger laws, effective enforcement and mass education campaigns to educate people about the dangers of inhaling secondhand smoke", said Liang Xiaofeng, deputy director of the CCDC.

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Comments for the 8 Abstracts
(provided in handout)



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Link for submitting your own Abstract
will be provided
Deadline: 15.11.15



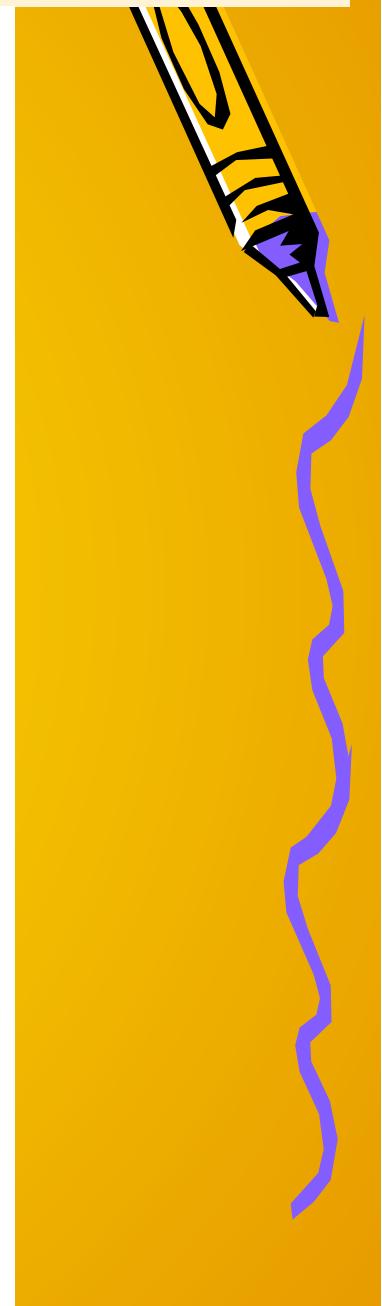
3. Comments on some Grammar Points Unit 1



Linking words

TABLE 1. Linking Words and Phrases

	Subordinators	Sentence Connectors	Phrase Linkers
Addition		furthermore in addition moreover	in addition to
Adversative	although even though despite the fact that	however nevertheless	despite in spite of
Cause and Effect	because since	therefore as a result consequently hence thus*	because of due to as a result of
Clarification		in other words that is i.e.	
Contrast	while whereas	in contrast however on the other hand conversely	unlike
Illustration		for example for instance	
Intensification		on the contrary as a matter of fact in fact	



A few more points on Linking words

Intensification=强化

On the contrary/quite the contrary: used to add to a negative statement, to disagree with a negative statement by someone else, or to answer no to a question

It was not a good thing; **on the contrary**, it was a huge mistake.

'I suppose your wife does not understand you.' '**On the contrary**, she understands me very well.'

'Are they happy?' 'No, no, **quite the contrary**.'

In contrast versus **On the contrary**

Object A is black. **In contrast**, object B is white.

-> **TWO** different objects are compared with each other

Object A is not black. **On the contrary**, object A is white.

-> **SAME** object commented on





In contrast versus On the contrary

1. A是黑色的，与此相反 (in contrast) ，B是白色的。
2. A不是黑色的，正相反 (on the contrary) ，A是白色的。





SINCE

* used as a preposition, conjunction, adverb

1 in the intervening period between (the time mentioned) and the time under consideration, typically the present

[as prep.] *she has suffered from cystic fibrosis since 1984 | the worst property slump since the war*

[as conj.] *I've felt better since I've been here*

[as adv.] *she ran away on Friday and we haven't seen her since.*





SINCE

* used as a preposition, conjunction, adverb
可用作介词、连词、副词

1 in the intervening period between (the time mentioned) and the time under consideration, typically the present
表"自...以来，从...开始"时可作介词、连词、副词



Examples

[as prep.] *she has suffered from cystic fibrosis since 1984*

[介词] 她从1984年开始一直患囊胞性纤维症。

[as conj.] *I've felt better since I've been here*

[连词] 自从来到这以后我就感觉好多了。

[as adv.] *she ran away on Friday and we haven't seen her since.*

[副词] 她自从周五逃走后我们就再也没有见过他。

SINCE

* used as a preposition, conjunction, adverb

2 [conjunction.] for the reason that: **because** : *delegates were delighted, since better protection of rhino reserves will help protect other rare species.*

2 表“因为”：[连词]代表们很高兴，因为犀牛保护区的加强意味着其他的稀有物种也可得到更好的保护。

SINCE

* used as a preposition, conjunction, adverb

3 [**adverb.**] ago : the settlement had vanished long since.

3 表“以前”（可与long搭配，表“很久以前”）:[副词]

那个居住区很早以前就不在了。



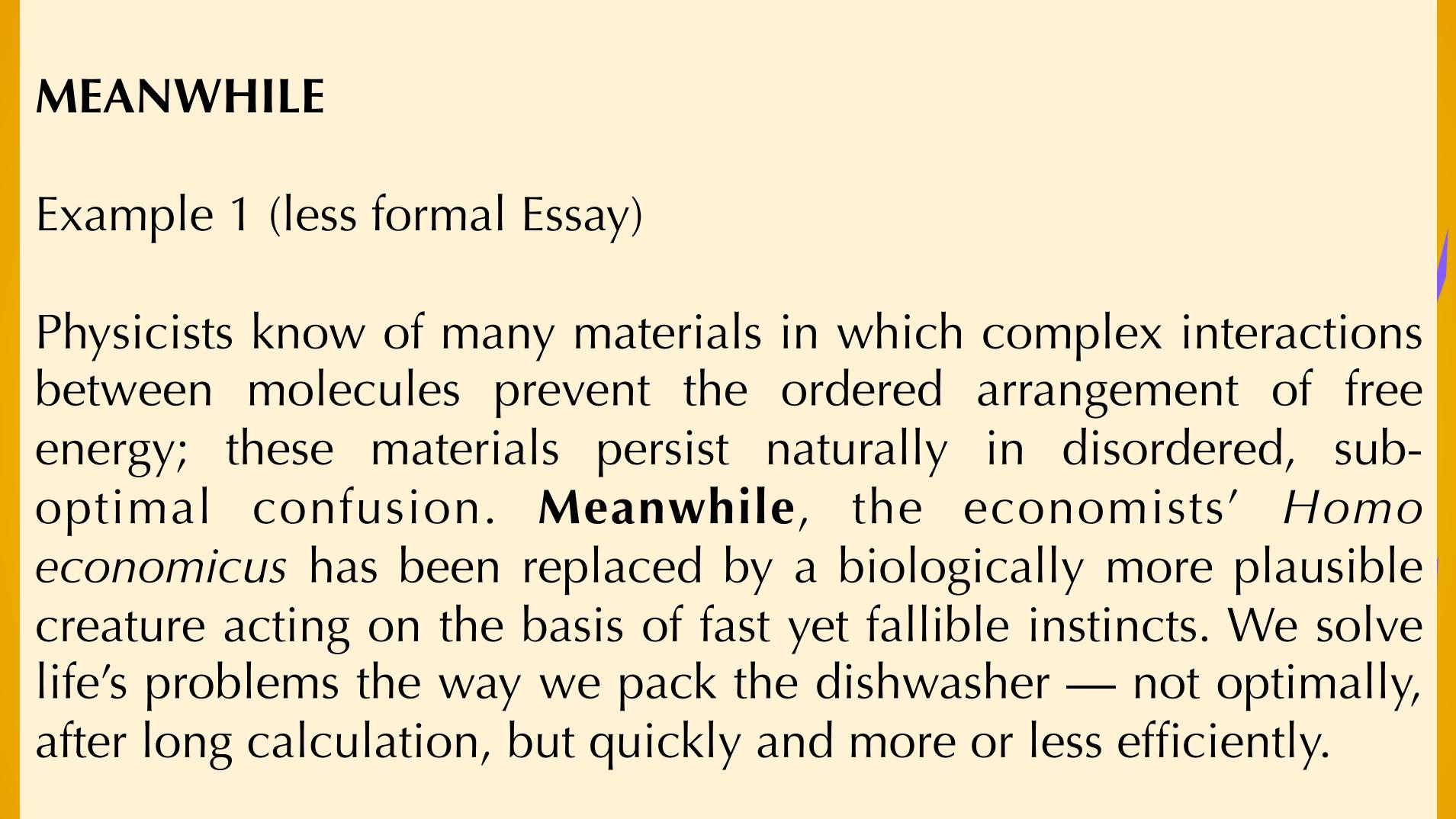
MEANWHILE

(adverb)

in the intervening period of time : *Meanwhile, Julie has found herself another walking partner.*

at the same time : *steam for another five minutes; meanwhile, make a white sauce.*





MEANWHILE

Example 1 (less formal Essay)

Physicists know of many materials in which complex interactions between molecules prevent the ordered arrangement of free energy; these materials persist naturally in disordered, sub-optimal confusion. **Meanwhile**, the economists' *Homo economicus* has been replaced by a biologically more plausible creature acting on the basis of fast yet fallible instincts. We solve life's problems the way we pack the dishwasher — not optimally, after long calculation, but quickly and more or less efficiently.





MEANWHILE

Example 2 (less formal Essay)

...to force a highly trained postdoc from research is a terrible waste of time and public expense. The ageing postdoc may well struggle to make up for those lost ten years when starting again in a different career. **Meanwhile**, after many years of relatively low pay, they can be years behind in terms of savings and pensions.





MEANWHILE

Example 3 (less formal Essay)

There is an oversupply of PhDs. Although a doctorate is designed as training for a job in academia, the number of PhD positions is unrelated to the number of job openings. **Meanwhile**, business leaders complain about shortages of high-level skills, suggesting PhDs are not teaching the right things.

FEEDBACK (Abstract Task)

MEANWHILE

Example 4 (Review article)

Through stochastic mechanisms and environmental cues, the abundance of one specific transcription factor increases relative to the other. This population of unopposed factor molecules is free to activate its target genes, producing the phenotype of the cell. **Meanwhile**, the target genes of the antagonistic transcription factor remain repressed.



Module 2: An Approach to Academic Writing

TASK 18: Summary words Part 1

Choose a summary word from the list to complete each sentence.
Can you think of other possible summary words in addition to those
on the list?

process situation finding estimation
problem difficulty disruption view



process situation finding estimation
problem difficulty disruption view

1. The traditional economic and consumer behavior models assume a rational, thoughtful consumer who gathers information about a good and then carefully makes a purchase. This _____ has recently been challenged, particularly because of the growing number of consumer choices.
2. Our pilot study has shown that wind turbines used to generate electricity can pose a threat to flying birds. This _____ suggests a need for further research on improving the safety of these mechanisms.
3. In soccer, goalkeepers routinely wear gloves that may restrict heat loss from the hands and cause discomfort. In order to alleviate this _____, special materials, called phase control materials (PCMs), have been incorporated into gloves to reduce the amount of heat inside the glove, thus maintaining a comfortable temperature.



process situation finding estimation
problem difficulty disruption view

4. Normal average human skin temperature is 37°C. At any lower environmental temperature, heat will be lost from the skin to the environment as the body attempts to heat up the air in direct contact with the body. This _____ is known as conduction.
5. Until adjustment of the body clock has occurred, individuals suffering from “jet lag” feel tired during the new daytime, yet are unable to sleep properly during the new night. For athletes in particular this _____ of sleep can affect mood and powers of concentration and might result in poorer training performances and competition results (Reilly et al. 1997b).
6. Until recently, the support needs of frail older people in Sweden have been met primarily by the state, with there being little expectation that the family would provide care. This _____ is now changing as increasing emphasis is being placed on the role of the family.



Module 2: 2-4 An Approach to Academic Writing

TASK 19: Summary words Part 2

Try to find yourself the most appropriate summary words that can complete these sentences.





1.Irrigation in sub-Saharan Africa is in most cases performed using a rope and bucket to raise and distribute water from a shallow open well. While this _____ has the advantage of being inexpensive, its low capacity and labor- intensive nature is decidedly a disadvantage.

2.Motor vehicle deaths in the U.S. declined from nearly 60,000 in 1966 to just over 40,000 in 2004, even though Americans drive millions more miles now and millions more vehicles are on the road. The death rate, which was 7.6 deaths per 100 million miles in 1950, declined from 5.5 in 1966 to 1.6 in 2004. This _____ can be attributed to the manufacture of safer vehicles, with features such as airbags and antilock brakes.



3.Haigney concludes from his study that driving performance decreases when drivers use their cell phones. This _____ is consistent with recent reviews of the literature on driving distractions.

4.Although it seems that the construction of new roads and widening of existing roads should reduce traffic congestion, recent research has shown that these activities actually lead to increases in traffic. This _____ is known as the “induced traffic” effect.

5.In 1900 average life expectancy at birth was 47 years for individuals born in developed countries. In 1950 life expectancy was nearly 68. For newborns today life expectancy is about 77 years. This _____, however, does not mean that humans are undergoing some physiological change. Rather, it is a result of advances in medicine and technology.



Flow



Old-to-New Information Flow

- * apart from logical connectors (however, furthermore, nevertheless)
- > progression from old/given/well-known information to new information
- > start with familiar information
- > repeat key words to tie together two sentences
- > use of passive voice



Example Old-to-New Information Flow

(1) **Earlier research** has shown that caffeine does indeed reduce sleepiness and can lead to better academic performance since students can spend more time studying. (2) Despite its effectiveness in counteracting sleepiness, caffeine can have a negative impact on subsequent sleep, which for many students may already be compromised. (3) Specifically, caffeinated beverages consumed near bedtime at night can prolong sleep onset and reduce sleep efficiency and depth, thus affecting both sleep quality and duration. (4) Most of the research on how caffeine affects sleepiness/alertness has focused on coffee or no-doze pills. (5) However, a **new kind** of caffeinated drink has become increasingly popular, namely functional energy drinks (FEDs). (6) FEDs are marketed as products that can improve both mental and physical performance. (7) In addition to containing caffeine, FEDs have other active ingredients such as taurine, glucose and glucoronolactone. (8) Exactly how these ingredients together affect alertness, however, remains to be elucidated.

Example Old-to-New Information Flow

(1) Research has shown that caffeine does indeed reduce sleepiness and can lead to better academic performance **since** students can spend more time studying. (2) **Despite** its effectiveness in counteracting sleepiness, caffeine can have a negative impact on subsequent sleep, which for many students may already be compromised. (3) **Specifically**, caffeinated beverages consumed near bedtime at night can prolong sleep onset and reduce sleep efficiency and depth, thus affecting both sleep quality and duration. (4) Most of the research on how caffeine affects sleepiness/alertness has focused on coffee or no-doze pills. (5) **However**, a new kind of caffeinated drink has become increasingly popular, namely functional energy drinks (FEDs). (6) **FEDs are marketed** as products that can improve both mental and physical performance. (7) **In addition** to containing caffeine, FEDs have other active ingredients such as taurine, glucose and glucoronolactone. (8) Exactly how these ingredients together affect alertness, **however**, remains to be elucidated. (9) If this relationship could be explained, more effective FEDs could be developed.

Identifying useful words and phrases



Google Scholar:

scholar.google.com/

Pubmed:

www.ncbi.nlm.nih.gov/pubmed

Example

"In recent years there has been"

or

*interest

-> increasing, considerable, extensive, substantial...interest



••••• 中国联通 3G 12:29 am 54% 🔋

Die geheime Ges... x Hannes Hegen -... x Aktuelle Nachric... x Ausgespäht ohne... x DNA-Binding Kinet... X +

← → 📄 + https://www.ncbi.nlm.nih.gov/pubmed/26488666 ⚡ 🔍 ⚙️ ⌂ ⚡

PubMed *interest Advanced

Abstract ▾

Send to: ▾

Save



Rec



Biophys J. 2015 Oct 20;109(8):1746-1757. doi: 10.1016/j.bpj.2015.08.035.

DNA-Binding Kinetics Determines the Mechanism of Noise-Induced Switching in Gene Networks.

Tse MJ¹, Chu BK¹, Roy M¹, Read EL².

⊕ Author information

Abstract

Gene regulatory networks are multistable dynamical systems in which attractor states represent cell phenotypes. Spontaneous, noise-induced transitions between these states are thought to underlie critical cellular processes, including cell developmental fate decisions, phenotypic plasticity in fluctuating environments, and carcinogenesis. As such, there is increasing interest in the development of theoretical and computational approaches that can shed light on the dynamics of these stochastic state transitions in multistable gene networks. We applied a numerical rare-event sampling algorithm to study transition paths of spontaneous noise-induced switching for a ubiquitous gene regulatory network motif, the bistable toggle switch, in which two mutually repressive genes compete for dominant expression. We find that the method can efficiently uncover detailed switching mechanisms that involve fluctuations both in occupancies of DNA regulatory sites and copy numbers of protein products. In addition, we show that the rate parameters governing binding and unbinding of regulatory proteins to DNA strongly influence the switching mechanism. In a regime of slow DNA-binding/unbinding kinetics, spontaneous switching occurs relatively frequently and is driven primarily by fluctuations in DNA-site occupancies. In contrast, in a regime of fast DNA-binding/unbinding kinetics, switching occurs rarely and is driven by fluctuations in levels of expressed protein. Our results demonstrate how spontaneous cell phenotype transitions involve collective behavior of both regulatory proteins and DNA. Computational approaches capable of simulating dynamics over many system variables are thus well suited to exploring dynamic mechanisms in gene networks.



TASK 20: Grammar Mistakes - Review

There are numerous small mistakes in grammar in the following passage. Can you identify and correct them?



TASK 20



The discovery of fossil fuels have had a big effect on development of cities. The use of the automobile has become most important element supporting the modern society. And, since a few decade ago, the finiteness of natural resources is a source of heated controversy. The cities and its development will certainly be affected.

Greater focus on accessible public transportsations is one change in current urban planning discussions. It widely believes that there will be an effort to redesign cities in order promote the use of public transportation.



Presentation



- * Never underestimate the power of error-free writing!
- > (s)he put great care into the writing, therefore, (s)he must be a thoughtful scholar/scientist/researcher/thinker



Presentation

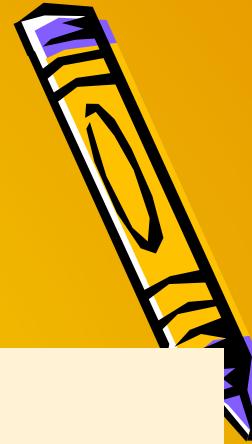


- * Never underestimate the callousness of a (tiny) minority of reviewers
- > (s)he did not pay attention to the proper use of article,
hence the execution of this study must be equally careless



Presentation

The following short passage has been spell-checked. Although all the words are spelled correctly as far as the spell-check program is concerned, seven usage and spelling errors remain. Can you identify and correct them?



An approach to Academic Writing Presentation



Original Version:

Their is considerable doubt weather this solution will be affective. The initial reaction too the report has not been complementary. In fact many observers believe that collapse of the system is eminent.



Presentation

- * Avoid ALL mistakes thorough spellchecking with your computer should pick up/detect
- * Beware of homophones (too/to/two)
- * Subject-Verb agreement (Our results shows/ The participants was tested for ...)

