

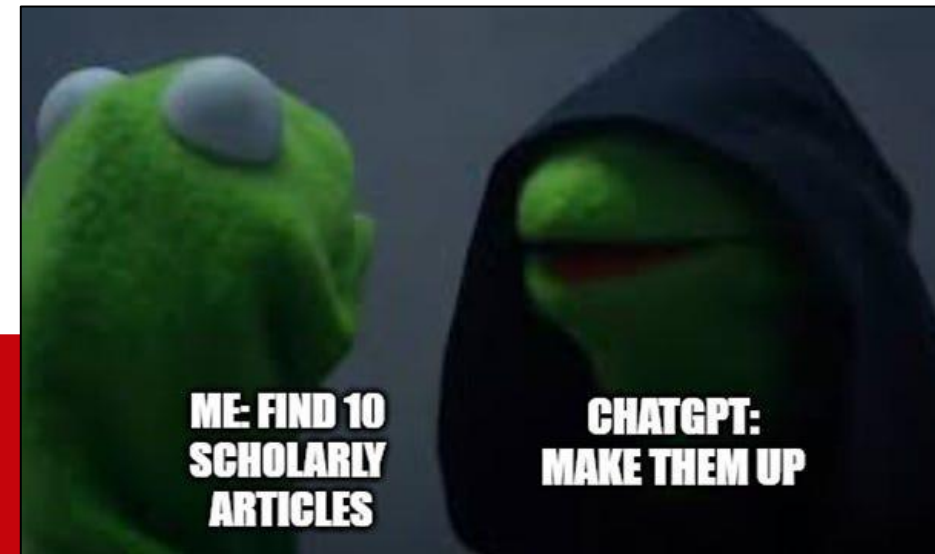
*Jen and Ben present:*

# ***Your New Lab Mate Is Confident, Fast, & Mostly Right***

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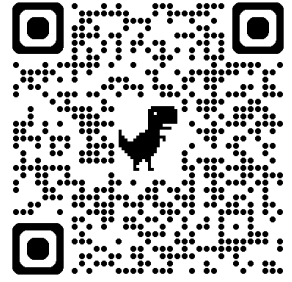
*Ben Rush, PhD, MPH – Radiology Informatics Data Scientist*

*Jen Merems, PhD – Scientific Editor*



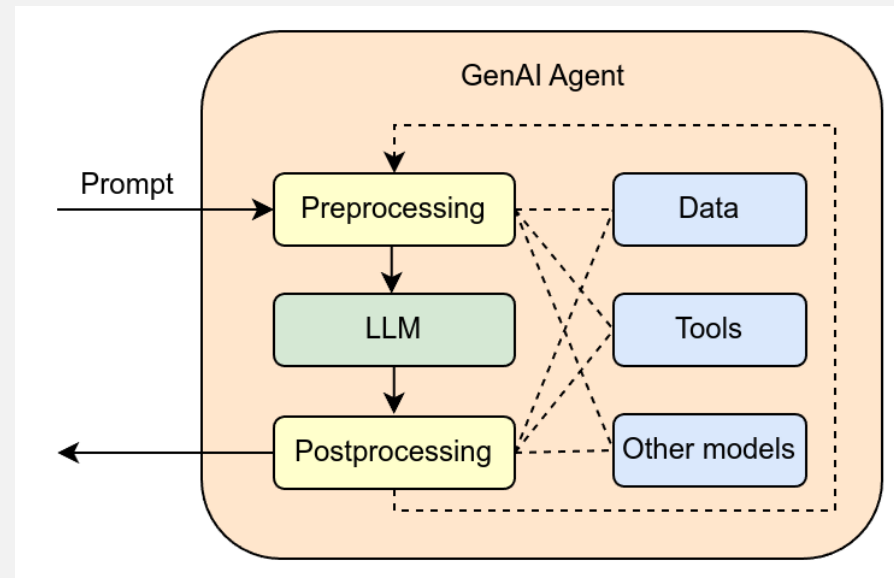
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# Generative AI



*From Wikipedia:*

**Generative artificial intelligence (Generative AI or GenAI)** is a subfield of [artificial intelligence](#) that uses [generative models](#) to generate text, [images](#), [videos](#), [audio](#), [software code](#) or other forms of data.<sup>[1]</sup> These models [learn](#) the underlying patterns and structures of their [training data](#) and use them to generate new data<sup>[2]</sup> in response to input, which often takes the form of natural language [prompts](#).<sup>[3][4]</sup>



# *Generative AI*

| <b>File Type</b> | <b>GenAI tool</b>                                      | <b>Use</b>                   |
|------------------|--------------------------------------------------------|------------------------------|
| Txt, PDF, RTF    | ChatGPT, Gemini, Claude, Copilot, Mistral...           | Summaries, speeches, text... |
| PNG, JPEG        | Dalle, Imagen, Midjourney, Runway, Firefly             | Picture, Logo, GIF           |
| mp4, gif         | Sora 2, Runway, Veo 3, Kling, Pika...                  | Video, GIF                   |
| Mp3, WAV         | MusicFX, MusicFX DJ, Stable Audio, Suno AI, NotebookLM | Music, Sounds, Speech        |

# *Generative AI*



## *Licenses at UW*

- *Google Gemini*
- *Microsoft Copilot*
- *Zoom AI*
- *Webex AI*
- *NotebookLM*

## **AI and institutional data**

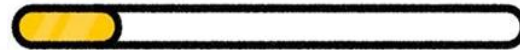
Never enter sensitive or restricted information like student records, health data or unpublished research into unvetted AI services. If you have questions about data classification, contact the appropriate data steward.

[Contact university data stewards](#)

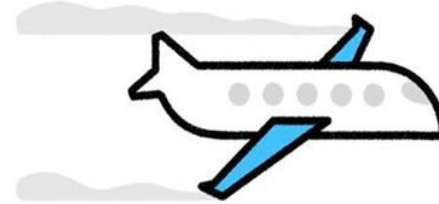


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## THE FASTEST THINGS ON EARTH



CHEETAH



AIRPLANE



SPEED OF LIGHT



PEOPLE BECOMING  
EXPERTS IN AI RISK

# AI is Contentious

## How ChatGPT and other AI tools could disrupt scientific publishing

A world of AI-assisted writing and reviewing might transform the nature of the scientific paper.

### Quotes from Scientists:

- *'generative AI is "automated plagiarism by design", because users have no idea where such tools source their information from.'*
- *'If scholars start to rely on LLMs, another concern is that their expression skills might atrophy.'*
- *'Early-career researchers could miss out on developing the skills to conduct fair and balanced reviews.'*

### The Authors Guild

- *'For now, all of the major large language models (LLMs)— generative AI for text—are based on hundreds of thousands or more books and countless articles stolen from pirate websites. This is the largest mass copyright infringement of authors' works ever, and it was done by some of the richest companies in the world.'*



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# *AI is Contentious*

*Before using AI for writing assistance, you must get permission from your*

- *Co-authors, Collaborators, PIs, Co-I's*
- *Anyone who is associated with the project*



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## *Why?*



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# *AI is Contentious*

- *Everyone must be accountable for the content, authors need to provide consent, affirm they followed ethical protocols of research, completed the steps they said they did.*
- *AI cannot be assigned such responsibilities, AI cannot give consent*
  - *AI cannot be listed as an author*
    - *Grants and manuscripts must be the **product of human insight and critical thinking***
    - *Human oversight of AI applications **is required***
    - *Must be reviewed for: Bias, Completeness, Accuracy*

*Authors are **ultimately responsible** for ensuring their work adheres to the highest standards of scientific integrity*



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# *Funders Rules on AI Assistance*

## *NIH*

- *Applications **not** considered if*
  - *Substantially developed by AI or have sections substantially developed by AI*
- *Claims it may be an appropriate tool to assist in application preparation for limited aspects or in specific circumstances*
- *Warns*
  - *AI use may result in plagiarism, fabricated citations, or other kinds of research misconduct*
  - *Ethical considerations – Bias and Privacy*

July 31 2025: Apply Responsibly: Policy on AI Use in NIH Research Applications and Limiting Submissions per PI

June 23 2023: The Use of Generative Artificial Intelligence Technologies is Prohibited for the NIH Peer Review Process (NOT-OD-23-149)

July 17 2025 – Supporting Fairness and Originality in NIH Research Applications (NOT-OD-25-132)



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# Journals Rules on AI Assistance

- *AI-generated content not consisted "original" to you, thus **not copyrightable**.*
- *Inclusion of more than "very minimal amount" violates your warranty to publisher*
- *Should disclose AI-generated content to reader to ensure they do not feel duped*

| Publishers                        | Elsevier | Taylor & Frances | IOP                                                                   |
|-----------------------------------|----------|------------------|-----------------------------------------------------------------------|
| AI Disclosure Required            | ✓        | ✓                | ✓                                                                     |
| Stand alone AI Disclosure section | ✓        | ✓                |                                                                       |
| Methods AND Acknowledgements      |          |                  | must include tool version number, how it was used, and reason for use |
| Check specific journal guidelines |          |                  | ✓                                                                     |



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- IOP states that **AI tools cannot be used** that limit how they, or anyone else, can use submitted work
- AI tool must **only obtain** rights that are necessary to provide the requested service, **not obtain** additional rights like "train" the tool

# *Journals Rules on AI Assistance*

| AI Use Category                  | Requires disclosure                                                 | Does not require disclosure                                                    |
|----------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>Drafting and editing text</b> | drafting and editing manuscript sections                            | basic grammar or spell checking                                                |
|                                  | case study or example creation                                      | simple language polishing                                                      |
|                                  | translation of content                                              | fixing punctuation                                                             |
|                                  | content summaries                                                   | naming support for chapter or section titles                                   |
|                                  | writing or rewriting entire sections of your work                   | de minimus or immaterial uses of AI output, such as incorporating single words |
|                                  | creative exploration that impacts your key arguments or conclusions |                                                                                |



# *Journals Rules on AI Assistance*

The following statement can be amended for use:

*During the preparation of this work the author(s) used [NAME TOOL / SERVICE] in order to [REASON]. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.*

The above declaration does not apply to the use of basic tools for checking grammar, spelling, or references (such as Grammarly or reference management tools such as EndNote or Zotero). These tools can be used by authors without disclosure.



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# AI Checkers

## Current problems

- Vary in accuracy
- Vulnerable to paraphrasing
- Biased in training data and variation across disciplines

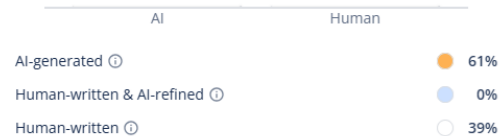
*\*Unclear what checkers organizations use (NIH)*

Perinatal brain injury (PBI) is a leading cause of cerebral palsy (CP) and long-term motor deficits, creating substantial challenges for families and healthcare systems, such as economic burdens. In 2000, the estimated lifetime costs for individuals born in the US with CP were \$11.5 billion , with costs increasing with CP severity. With earlier identification of CP risk, severity can be mitigated. via timely, diagnosis-specific intervention during heightened neuroplasticity, as clinical trials indicate that initiating interventions before 6 months of age yields superior outcomes. However, realizing these benefits at scale requires prognostic tools that not only identify high-risk infants early but also clarify which specific interventions are most likely to benefit individual children. These data motivate the need for earlier and more precise prognostic information to support targeted intervention planning and efficient resource allocation.



61%

of text is likely AI



Your Text is Likely Human written, may include parts generated by AI/GPT



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No AI Content Found ⓘ

Percentage of text that may be AI-generated.

0%

All Clear — Nothing Flagged

Zero concerns this time, but our detection logic is ready for what comes next. Explore how it works when content is flagged.

Basic Scan

Give feedback

Share

GPTZero AI Detection Model 3.15b



Possible AI paraphrasing

We are highly confident this text was originally AI, but rewritten by AI or a human ⓘ

This is a **BETA** feature. [Send us your feedback.](#)

Probability breakdown ⓘ

97% AI generated 3% Mixed 0% Human

# *Considerations for GenAI*

## *Risks of using generative AI*

- *Inaccuracy and fabrication (i.e., hallucinations)*
  - *Can lead to immediate rejection or damage to your and the organizations credibility.*

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- *Cannot be assumed tools are compliant with rules and laws designed to ensure the confidentiality of private information (HIPAA, FERPA)*
- *Ethical and confidentiality concerns*
  - *Feeding sensitive organizational data into 3<sup>rd</sup> party platforms poses risks related to data privacy, proprietary information security, and compliance with federal grant regulations.*

# Considerations for GenAI

## *Biases of Generative AI*

- *Inherent biases in its training data*
- *Reinforces and amplifies gender, ethnicity, cultural, political, professional and societal roles, ideological and languages biases in the training data.*
- *Reinforces biases in human activities and more deeply engrains the bias – **an AI-mediated feedback loop.***



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# Considerations for GenAI

- *Writing with GenAI assistance reduces overall neural connectivity, shifts the dynamics of information flow.*
- *Reliance on AI tools can lead to a passive approach and diminished activation of critical thinking skills when the person later performs the tasks alone.*
- *Less activation of top-down executive processes (e.g., internally guided idea generation) and reduction in sustained working memory.*
- *Frequent AI tool use often bypass deeper engagement with material, leading to 'skill atrophy' in tasks like brainstorming and problem solving.*



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Publication

**Your Brain on ChatGPT: Accumulation of  
Cognitive Debt when Using an AI Assistant  
for Essay Writing Task**

# Considerations for GenAI

HOT TOPIC FROM THE 2024 ACADEMIC SURGICAL CONGRESS · Volume 307, P212-220, March 2025 · [Open](#)

Access

[Download Full Issue](#)

## Generative Artificial Intelligence in Academic Surgery: Ethical Implications and Transformative Potential

[Jamie R. Robinson, MD, MS, PhD](#) <sup>a,b</sup> · [Anne Stey, MD, MSc](#) <sup>c</sup> · [David F. Schneider, MD, MS](#) <sup>d</sup> · [Anai N. Kothari, MD](#) <sup>e</sup> · [Brenessa Lindeman, MD, MEHP](#) <sup>f</sup> · [Haytham M. Kaafarani, MD, MPH](#) <sup>g</sup> · [Krista L. Haines, DO, MA](#) <sup>h</sup> [Show less](#)

DOI: [10.1016/j.jss.2024.12.059](https://doi.org/10.1016/j.jss.2024.12.059)



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# Ways to use AI in writing

*Adjust language*

- *powerthesaurus.org (free, traditional non-generative AI)*

The screenshot displays the Power Thesaurus website interface. At the top, there is a search bar with the text "power thesaurus" and a search icon. Below the search bar, the main heading is "Synonyms for Experience", followed by the text "2 088 other terms for experience - words and phrases with similar meaning". The interface is divided into several sections:

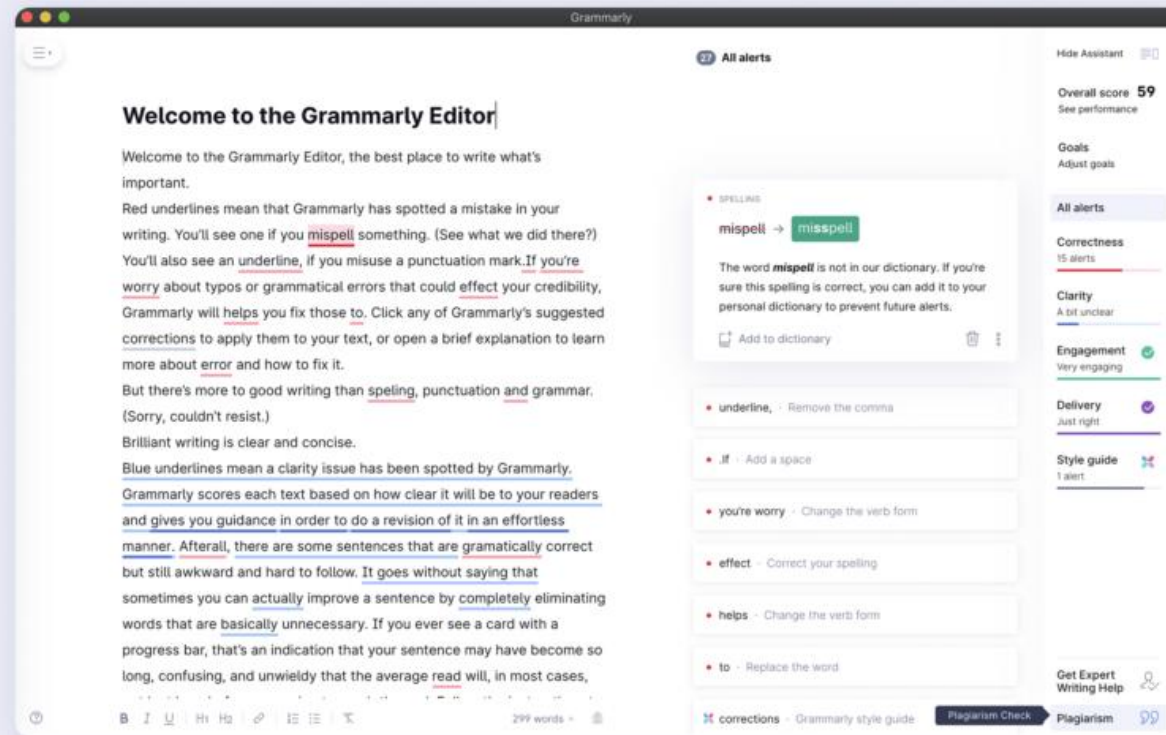
- Lists:** A sidebar on the left with a "Lists" section containing "Synonyms", "Antonyms", "Definitions", "Sentences", and "Thesaurus".
- Words:** A sidebar on the left with a "Words" section containing "Words", "Phrases", and "Idioms".
- Parts of speech:** A sidebar on the left with a "Parts of speech" section containing "Nouns", "Verbs", and "Adjectives".
- Tags:** A sidebar on the left with a "Tags" section containing "knowledge" and "understanding".
- Main Content:** A central table listing synonyms for "Experience". Each row includes a word, its part of speech, and a set of tags. The words listed are: undergo, encounter, suffer, endure, know, feel, incident, have, knowledge, adventure, face, occurrence, event, background, and skill.
- Log in:** A button labeled "Log in" is located in the top right corner.
- Social Media:** A row of social media icons (Facebook, Twitter, YouTube, LinkedIn, Email, and Print) is located at the bottom right.

| Word       | Part of Speech | Tags              |
|------------|----------------|-------------------|
| undergo    | verb           | #get #brave       |
| encounter  | verb noun      | #accept #get      |
| suffer     | verb           | #get #take        |
| endure     | verb           | #undergo #get     |
| know       | verb           | #get #brave       |
| feel       | verb           | #brave #abide     |
| incident   | noun           | #happening #event |
| have       | verb           | #get #see         |
| knowledge  | noun           | #understanding    |
| adventure  | noun           | #action           |
| face       | verb           | #brave #bear      |
| occurrence | noun           | #period #time     |
| event      | noun           | #happening        |
| background | noun           | #skill #knowledge |
| skill      | noun           | #knowledge        |

# Ways to use AI in writing

spell-check and grammar-check

- Grammarly (traditional, non generative AI; GrammarlyGO is genAI)



# Ways to use AI in writing

Check readability and grade

- Hemingway Editor (free, traditional non-generative AI; plus is genAI)

The screenshot displays the Hemingway Editor Plus web interface. The top navigation bar includes the Hemingway Editor logo, a menu with options like 'File', 'Fix Grammar', 'Rewrite', and 'Paragraph', and a 'How to use Hemingway' link. A sidebar on the left promotes 'AI Tools - Try Free' for Hemingway Editor Plus. The main content area features a sample text with various highlights: yellow for complex sentences, red for dense and convoluted logic, purple for words that can be simplified, and blue for adverbs and passive voice. A sidebar on the right provides readability statistics, including a grade level of 8 and a word count of 185. It also lists specific issues found in the text, such as sentences that are hard to read and words that can be simplified.

**Hemingway App makes your writing concise and correct.**

The app highlights lengthy, complex sentences and common errors; if you see a yellow sentence, shorten or split it. If you see a red highlight, your sentence is so dense and complicated that your readers will get lost trying to follow its meandering, convoluted logic—try editing this sentence to remove the red highlight.

You can **utilize** a simpler word instead of a purple one. Click on highlights to fix them.

Adverbs, passive voice, and other weakening phrases **are marked** in blue. **I believe** you should replace them with more forceful language.

Our Hemingway Editor Plus service uses AI to fix these highlights for you. It also features an advanced grammar checker that marks issues in green. It goes far beyond other grammar tools to catch even the trickiest errors. You can also change the tone or style of your writing by selecting text and using the "AI tools" button at the top.

To get started, paste in something you're working on and edit away. Or, click the Write button to hide highlights and compose something new.

**Readability**  
Grade 8  
Good.

Words: 185  
Show more stats

1 of 13 sentences is very hard to read.

1 of 13 sentences is hard to read.

Find grammar and spelling issues with Editor Plus. Upgrade

2 weakeners. View details

1 word with a simpler alternative.

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# Ways to use AI in writing

## Assistance with terms

- ChatGPT Palatable (requires ChatGPT Plus, genAI)

how does palatable work?

Palatable is a specialized version of ChatGPT designed to help you revise **Federal agency documents, grant materials, and programs** for compliance with the 2025 Executive Order 14151, titled:

“Ending Radical and Wasteful Government DEI Programs and Preferencing.”

### How It Works

Palatable performs three core functions:

#### 1. Flagging Language for Review

Using a comprehensive list of **prohibited or review-triggering terms** from current federal guidance, Palatable scans your documents for:

- DEI/DEIA-related terms and phrases (e.g., “equity,” “inclusive,” “marginalized,” “racial justice”)
- Identifiers for groups or populations formerly targeted for DEIA support (e.g., “BIPOC,” “LGBTQ,” “underrepresented,” “female,” “people of color”)
- Systemic or institutional framing (e.g., “implicit bias,” “intersectionality,” “oppression,” “systemic”)

#### 2. Offering Edits or Alternatives

For flagged language, Palatable offers **rewrites** that:

- Focus on **individual merit, performance, and skills**
- Use **neutral, non-political language**
- Avoid any implication of **identity-based preferential treatment**
- Emphasize **equal dignity, impartiality, and objectivity**

**Example:**

Instead of:

“The program supports underrepresented communities in STEM.”

Palatable suggests:

“The program supports broad participation in STEM based on individual qualifications and interest.”

#### 3. Aligning with Compliance Requirements

Palatable helps ensure that your content complies with the Executive Order’s mandates, including:

- Elimination of all DEI/DEIA-related language, offices, training, and performance goals
- No references to identity-based categories or preferences
- No references to previously encouraged concepts like “equity,” “inclusive practices,” or “systemic discrimination”
- Redirection of focus to **equal opportunity based on merit, without regard to identity**

#### ✓ Use Cases

- Reviewing **NSF grant proposals**
- Cleaning up **federal agency internal documents**
- Editing **training materials**
- Preparing **reports for OMB/OPM compliance audits**
- Pre-submission screening for flagged language

Would you like me to review one of your uploaded documents now, or walk through an example line-by-line?



Be very careful when generative AI asks you to upload documents.

<https://chatgpt.com/g/g-67a26e409b188191ac5bc467436407cc-palatable>