



# Insights Report

Rapid Iterative Testing and Evaluation of new  
design concepts for the Wikimedia Foundation's  
Machine in Translation (MinT)

*Prepared For: The Wikimedia Foundation*

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*Author: Anagram Research*

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# About the Study

# Project Background

Machine translation is a key tool that has the potential to help the Wikimedia Foundation achieve their vision - *'Enable more people to access or contribute content to Wikipedia in their native or preferred languages.'*

However, lacking good quality machine translation tools that editors can benefit from, many languages have relatively small Wiki's.

\*MinT is a new translation service by the Wikimedia Foundation Language Team, that aims to expand the current machine translation support and grow small Wiki's.

MinT can support 200+ languages, and focuses particularly on underserved languages that are getting machine translation for the first time.

# Study Objectives

Given this background, the Wikimedia Foundation engaged the Indian user research consultancy Anagram Research, to conduct a multi-part research study.

The broad objectives of the study were to gain insights around how MinT might better support more readers and contributors, including Awadhi and Chhattisgarhi native speakers receiving machine translation support for the first time.

*Note - Specific rationale behind the selection of target languages / Wiki's for this research are detailed out at [https://meta.wikimedia.org/wiki/Research:MinT\\_\(Machine\\_in\\_Translation\)\\_Research#Research\\_Approach](https://meta.wikimedia.org/wiki/Research:MinT_(Machine_in_Translation)_Research#Research_Approach).*

# Study Objectives

- **Part 1** of the research was focussed on getting user feedback for up to 5 new MinT concepts.  
*[The concepts](#) were geared towards increasing reader awareness and access to encyclopedic content, as well as exposing readers to possible contributorship.*
- This part of the research also attempted to gain a general understanding about the experiences and perceptions of readers and editors, when using machine translation both on and off Wikipedia.

# Study Objectives

**Part 2** of the research was designed to be more generative in nature, and attempted to:

- Explore in-depth how monolingual readers who read and write in Hindi, along with lower-resourced languages (Awadhi and Chhattisgarhi) might currently experience machine translation in their daily pursuit of individual learning and education.
- Understand how MinT could help reduce language barriers to knowledge.

# Research Methodology (Part 1)

## Rapid Iterative Testing and Evaluation (RITE)

- In order to support concept iteration and to uncover additional concepts to be explored in more detail, two cycles of RITE were conducted with 12 participants per cycle.
- A 2-week gap between testing cycles was used to review and share preliminary findings and to iterate the discussion guide and design concepts.
- RITE sessions commenced with a general interview portion that aimed to understand the perspectives of both readers and editors. This was followed by participant exploration of 5 interactive prototypes of medium fidelity.
- Each session was of 75 minute duration, and conducted remotely over Microsoft Teams.

*Note - This insights report documents the findings of Part 1 of the multi-part research. Findings of Part 2, are available in [separate reporting](#).*



# Participants (Part 1)

## Rapid Iterative Testing and Evaluation (RITE)

Study participants included both readers and editors, who were monolingual or multilingual in online content usage.

- A total of 24 participants  
*(Awadhi/Chhattisgarhi/Hindi native speakers)*
- 12 participants per RITE cycle  
*(4 primarily monolingual readers, 4 multilingual readers, 4 Wikipedia editors per cycle)*

# Executive Summary

- Translation tools have seamlessly integrated into users online activities and routines.

Currently, the most popularly used translation tool is Google, primarily because of brand ubiquity and trust.

**Research highlights several pain points and participant inputs around translation experiences, offering the potential to improve and create a translation experience that is closer to user needs.**

**Several use cases that a new translation tool could potentially support, are also highlighted through research.**

- Participants appreciate and see value in the new MinT concepts.

**Study participants recognize the potential of a tool like MinT - To make good content in preferred languages more easily available.**

**Additionally, participants appreciate being able to cross reference or toggle between original content and translated text more seamlessly.**

- Based on their current experiences, most participants anticipate that MT content will have more grammatical errors, be less trustworthy and harder to read than original content.

**Nevertheless, no significant errors or issues were flagged in the MinT Hindi translation. Some participants even claimed no noticeable difference.**

**A few grammatical and spelling errors were highlighted by Chhattisgarhi participants.**

- The MinT concepts propose new ways of using translation - That is different from what readers and editors have become accustomed to, on and off Wikipedia.

**The challenge lies in swiftly and effectively fostering users' understanding of the unconventional ways of using translation proposed by these novel concepts.**

- Research highlights UI issues related to discoverability / clarity / consistency / self evidence across the different MinT prototypes.

**Concept prototypes were iterated based on RITE 1 findings and recommendations.**

**A few additional issues were highlighted during RITE 2, and may be potentially addressed for a better user experience.**

- 'Review Automatic Translation' comes across as a simple and non-threatening feature to readers.

Editors see value in using MT content as a base for editing.

**Future access to this feature has the potential to motivate readers to move beyond simply accessing information and encourage contributions to Wikipedia or a broader set of platforms.**

**However, editors as well as a few readers express concerns about readers editing and publishing MT content on Wikipedia.**

# General Insights

# Various factors influence the language preferences of readers engaging with online content.

- For some, the language of instruction or communication in education / the workplace becomes the language for reading online content.
- Language chosen for reading and writing evolves over time and is fuelled by \*internet usage, \*\*content availability and reliability.
- Chosen reading language can vary based on the type of content to be consumed.

Language of instruction and communication in education /  
workplace

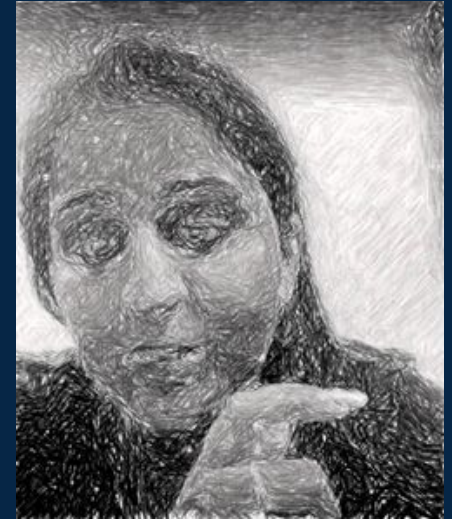
*"There is no such preference but still, English I prefer a bit more.*

*It is easy to read. You have been studying all the subjects in English. So, since childhood it is like that.*

*When it comes to verbal conversation, I am comfortable in English and Hindi and I can easily express myself in very good vocabulary.*

*But when it comes to written part, presenting a data or presenting some facts to someone, it is a bit difficult to use some words in Hindi, the vocabulary is weak in Hindi for me."*

*(P24 - Multilingual Reader)*



### Content Availability and Reliability

*“I prefer Hindi, but the content available in Hindi is not that accurate (fake news). So I read English only.  
80% of what I read is English content.*

*Also, we don't get that much content in Hindi; But we get in English.”*

*(P04 - Editor)*





## Type of Content

*“Depends on what kind of content I’m reading.  
Suppose I’m reading some content which is in English only, so I usually go with English, but sometimes if I’m reading something which is not international and is our national thing, of this country, then I sometimes prefer Hindi as well.  
Depends, if I’m reading politics or something, or some crime incident, some news, then I like Hindi sometimes.  
But if I’m reading some informative content then, I like to read that in English.”*

*(P01 - Multilingual Reader)*



### Type of Content

*“It depends on the content, some are better in English but sometimes I prefer Hindi.*

*If it is related to the history of India, Hindi is better in content.*

*If there is some chemistry field research, I prefer English, as Hindi I don't find the translation better.”*

*(P20 - Editor)*



### Type of Content

*"It depends on what you are reading; Whichever looks comfortable, I use that.*

*Say, when it comes to seeing the news, I see the English news. When I see something like recipes, I see it in Hindi as well."*

*(P22 - Multilingual Reader)*



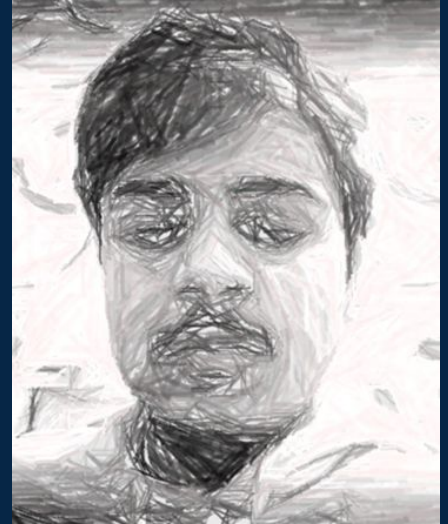
Finding online content in a language that is know or preferred, is \*generally not perceived to be a problem by native Hindi / Awadi / Chhattisgarhi users.

More often than not, readers don't have trouble finding content in a language they know, or are able to easily translate content into a language that they understand:

- Even monolingual readers have at least a cursory knowledge of Hindi / English in addition to their primary/preferred reading language.
- Original Hindi content is becoming increasingly available online.
- While original content is preferred, readers are comfortable using Google Translate when needed.

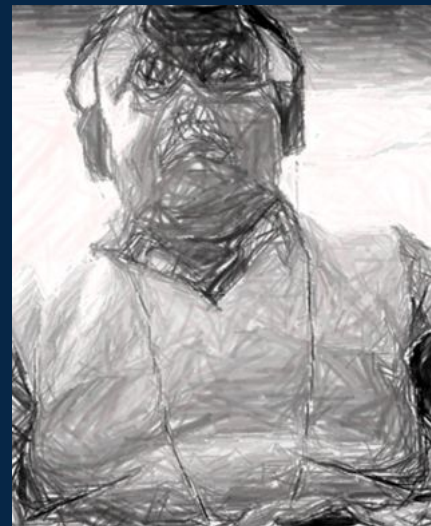
*“I am able to understand English, but I mostly prefer Hindi.  
If I get in other language, I simply go to Google translator and  
type and we get everything in Hindi.  
I have never faced any problems.”*

*(P15 - Monolingual Reader)*



*“Earlier if there was something that I didn't understand in English, I would have to ignore it. Now, we can find out what it means immediately through Google Translate.”*

*(P18 - Monolingual Reader)*



Translation tools have seamlessly integrated into the online activities and routines of monolingual as well as multilingual readers.

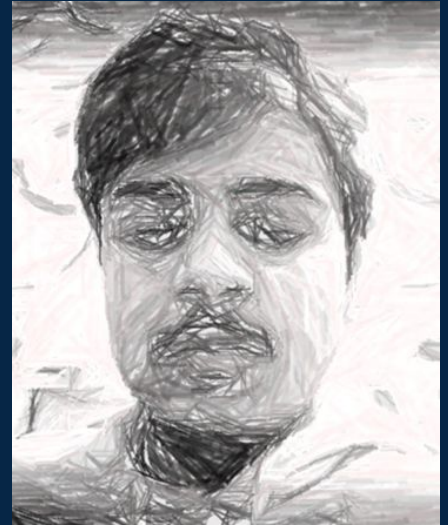
Widespread internet and mobile phone usage in India has made access to online translation services swift and convenient.

*“Can find anything these days.*

*Earlier we needed to use dictionaries.. Now we can just type  
'...' meaning in Hindi / English' and get it easily.. Now there are  
unlimited resources.*

*With the Internet, even words missing in dictionary can be  
found.”*

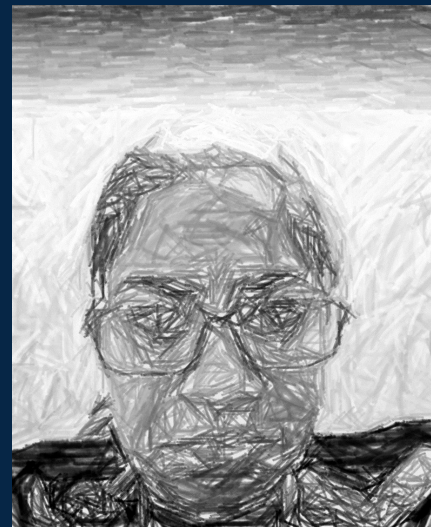
*(P15 - Monolingual Reader)*





*“It has become very easy for me.  
If I am stuck with some words and I am out somewhere, then I  
will quickly open my smartphone and use it.  
Even if I am at home, rather than switching on my laptop and  
checking on it, smartphones have Google apps installed which  
is quite time-saving.  
It saves my time.”*

*(P19 - Monolingual Reader)*



# Translation using Google is most popular.

Google is perceived to be the most easily accessible, convenient, and accurate option.

- \*Android phones dominate the Indian mobile operating system market. Google apps come preloaded on many Android mobile phones, and Google is the default browser.
- Google Chrome / Search are already used extensively for general online browsing / search. Being able use it as the translation start point makes Google the default go-to for translation.

*Besides Google Translate, individual readers also use online dictionaries and automatic translation prompts on the phone, FB, YouTube and other websites. P04-Editor preferred Chat GPT over Google, to translate less popular languages.*

*“No, just this translator. (Google)*

*Because it is easy. You type something and you easily find it on top. It is not that you have to go to a particular app or something. This makes your job easier and on the spot.*

*Now, if you had to install an app and then log in or sign up, and allow permissions, it takes a lot of time.*

*Instead, you’d like to use something that does your job at one go and quickly.”*

*(P21 - Multilingual Reader)*

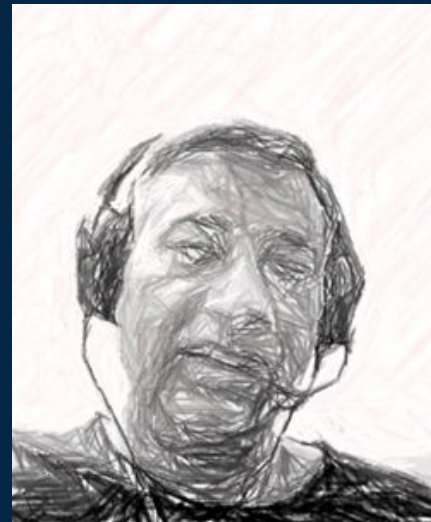


*“I have used the Foundation’s MinT in some articles, but they need to work more on it. There are many technical errors in it. Even the quality of the translation is not good.*

*To be honest, I do it with Google because it is available on the mobile phone. My accounts are also on Google mostly. It is easy to search them in ‘history’, I can know what I used earlier. That’s why I mostly try on Google.*

*There are other websites also. But ultimately I saw that other API’s lag behind Google.”*

*(P08 - Editor)*



*“In terms of translation quality, ChatGPT has a better quality. When you talk of ChatGPT, it translates paragraph-wise, but Google Translate does it sentence by sentence. When we do that line to line, the meaning of paragraph gets spoilt. The first line means something else; the second line means something else. It doesn’t match with the paragraph.”*

*(P04 - Editor)*



Translation usage varies based on need - spanning from brief to prolonged tasks.

Readers use translation for quick help (finding the meaning of a difficult word, translating a sentence or short paragraph) as well as to understand longer form content.

Individual participants highlight diverse scenarios where online translation is used.

1. *Hindi speakers have become used to colloquial Hindi terms rather than formal Hindi words.  
Technical terms, numbers, rarely used terms have become also hard to understand in Hindi.*

Translation is used to understand 'difficult' words / find simpler synonyms / see usage examples (How a word is used in a sentence) / listen to the pronunciation.

*“I was searching something, and Hindi was quite difficult to understand. So I simply copied and pasted in Google Translator and got the content in English which was easier to understand. There are a lot of words that are easier to understand in English.”*

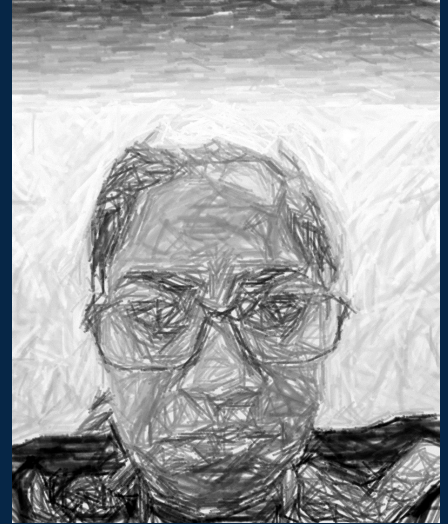
*(P15 - Monolingual Reader)*





*“Sometimes, you come across ‘proper’ Hindi words.  
Like there was a word, ‘Grisham Ritu’.  
I couldn’t recall its meaning. However, the word is very easy.  
But I couldn’t remember that it meant the summer season.”*

*(P19 - Monolingual Reader)*



Individual participants highlight diverse scenarios where online translation is used.

Transaction is also used to:

2. Find the names of fruits/vegetables/flowers in English  
*(The Hindi term for some fruits/vegetables have become more commonly used, even among those who are not native Hindi speakers  
E.g. 'Bhindi' vs. 'Ladysfinger'; 'Champa' vs. 'Frangipani')*
3. Understand / Gain fluency in a 2nd (non-native) language
4. Communicate with others who don't speak the same languages
5. Verify how to write something in Hindi
6. To save time (vs. type in Hindi)
7. To assist manual translation for Wikipedia

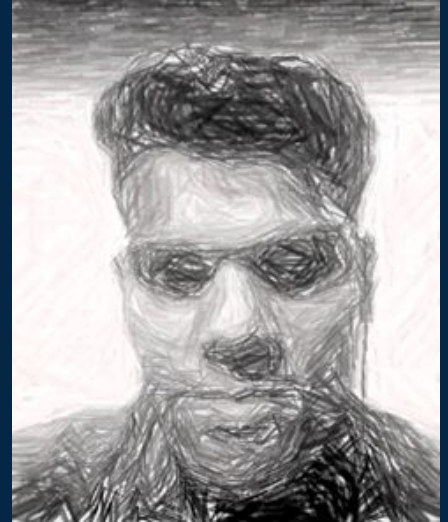
## Understand a 2nd Language

*"When I went in the first year (of college), everything was in English.*

*I have studied till 12th from Hindi medium.*

*I don't know English that much. So, I used this (Google Translator) the most."*

*(P16 - Multilingual Reader)*



## Communicate with others

*“If you’re in a different state, you can use Google and it instantly translates things for you.*

*Sometimes, you go to European countries, they don’t use English. If you go to Kerala or anywhere in South, sometimes, people don’t speak English or Hindi. Then, you can translate stuff and that’s a very easy thing to do.*

*If you can’t speak, you can at least show it to them.*

*I had been to Kerala. I used this in Munnar because they didn’t know English or Hindi.*

*So, I showed the cab driver and he understood.*

*I showed him this is where I want to go.”*

*(P21 - Multilingual Reader)*



### Save time (Vs. Type in Hindi)

*“No, see it is not necessary that each time I will type this, right? If someone has mailed me in Hindi and I have to reply them in Hindi then I will use this.*

*In Google Translator it becomes easy for me, as it is difficult to type the Hindi content in PC, right? As it takes time. So here through mail, I can cut and copy-paste the same in the Google Translator, so it saves time.”*

*(P09 - Multilingual Reader)*



## To assist manual translation for Wikipedia

*“Sometimes, for writing an article, I translate them from English to Hindi, so that I am able to understand what it is or how it is written in English. And then I am able to write that thing in my own language (Hindi) easily.*

*I have written many articles in Hindi Wikipedia. To write that, I first translated them from English Wikipedia to Hindi.*

*Then I made lots of changes according to myself and wrote in Hindi Wikipedia.*

*I can't say that that translation (Google Translate) is totally correct. Its 60% correct. But 40% of it has lots of mistakes. Mistakes in sentence formation are there. One word has many meanings. Many times Google Translator makes lots of mistakes in that too.*

*We have to make corrections - otherwise, in Hindi Wikipedia there is a tag of Google translate.*

*When that is used, that article gets removed.”*

*(P03 - Editor)*



## Gain fluency in a 2nd Language

P03-Editor finds additional value in his work as a Wikipedia editor, as translating content also helps him improve his English.

*“Sometimes in translation, I understand many things. As I said, I am not familiar with many English words. But after translation, I get to know them.”*



Participants appreciate the rapid improvement in translation quality over the years.

However, there are some concerns / pain points.

1. Quality of \*‘Hinglish’ translation
2. Availability and quality of translation for regional Indian languages / less popular international languages
3. Use of formal / archaic words
4. Word limit on Google Translate
5. Fluency and comprehension because of grammar / sentence structure / incorrect use of synonyms in context to the sentence)
6. Inability to translate subtleties of emotions or sentiments between languages



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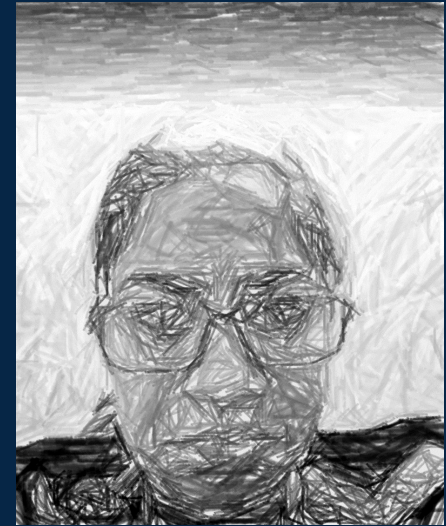
8. Non transference of vocabulary across languages
9. Quality of Speech to Text translation
10. Need for internet to access online translation tools
11. Translator tool malfunctions linked to browser updates

### Hinglish translation

*“There could be an issue in comprehending when I write Hindi words, the computer understands the meaning in English. Otherwise, there is no other problem.*

*Suppose I am typing similar to WhatsApp language. For example, “Mene abhi walk par jana hai”. So I will write the same thing in Hindi. Sometimes the words that I write in Hindi, the computer doesn’t have its translation in English. So, it will show me the word in Hindi.”*

*(P19 - Monolingual Reader)*



### Translation of less popular languages

*“When I translate the Japanese or Russian languages for example, the accuracy is very low. The meaning comes out to be totally different from the actual one.*

*I used Google translate earlier, now I use Chat GPT.  
I feel that ChatGPT gives an accurate response in comparison to Google Translate.”*

*(P04 - Editor)*



## Word Limit

*"It is a very big paragraph, but the huge paragraph is not covered in Translate.*

*Because Google Translate has a limit of 350-450 words maximum. You cannot translate more than that content at once."*

*(P21 - Multilingual Reader)*



## Fluency and Comprehension

*“One concern is imperfections.*

*The other problem is sequence. Sometimes the sequence is not right. This could be a problem. Then word selection is a problem. Right words are not chosen.*

*Like in Hindi, there are many words. A mango is called ‘amra’ also and ‘aam’ also. Like we call it ‘pavan’, ‘bayu’, ‘sameer’, etc.*

*Machine translation cannot use the right word. And then...”*

*(P07 - Editor)*



## Fluency and Comprehension

*“Sometimes there is issue with the sentence formation. For example if a sentence is written in English, right, so when it is translated in Hindi, then I feel that the sentence that is formed is wrong.*

*So due to these incorrect meaningless sentences, the aim of which I tried to translate is not achieved, right, the meaning of the paragraph is changed. In that present tense is turned into past tense, so that confusion will be there.”*

*(P09 - Multilingual Reader)*



## Emotions and Sentiments

*"Sometimes it's sentimental, emotional, and sometimes it's very hard in the other language.*

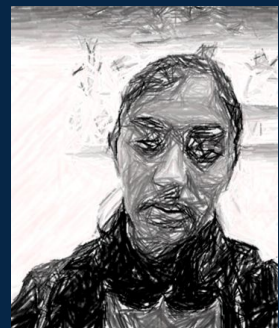
*The emotion gets changed while using the automatic translation."*

*(P17 - Multilingual Reader)*

*"Sometimes translation misses the intended meaning of the original text.*

*At times how strongly it is expressed in English, the same don't happen in Hindi."*

*(P20-Editor)*



## Non Transference of Vocabulary

*“There is a lot of difference in vocabulary (between languages). The most difficult thing is when we need to translate the cultural article. The native people there, will have a culture, that is not there in the native people over here. Then the translation goes wrong.*

*As in that case the translator (tool) just writes the word as it is. Like in case of the translation of India’s culture, the words aren’t available in English. The vocabulary is not available. Meaning has the most value, it should get conveyed correctly and in an easy way.”*

*(P04 - Editor)*





## Quality of Speech-Text translation

*"The pronunciation option of speaking through the mic and it automatically converts to sentence but sometimes, it does not read it.*

*If you say 'mujhe kahi jaana hai', it is possible that it will pick up something else and make a new sentence.*

*This happens with Google Assistant also. If you say 'call Kuldeep' while driving, it is possible that it picks up 'call Sandeep'."*

*(P21 - Multilingual Reader)*

### Note -

*Study participants wanted to use speech-text translation to multitask / save time. An Awadhi user preferred to use speech to text in translation as she is not proficient with Hindi writing / typing / spellings.*



## Online Access

*P16-MLR, is unable to access online translation at times, as his data plan gets exhausted.*

*To counter this, he has downloaded the Google Translator app that can be used even when he is not connected to the Internet.*



*(P16 - Multilingual Reader)*

Users want to feel confident about the quality and accuracy of the translation.

This is particularly important when translation is being used to understand high stakes content / during editing.

- High trust in the brand translates to basic trust in the translation quality. (Google and Wikipedia are trusted brands)
- Some knowledge of both the original as well as the translated language helps build users confidence about the translation quality.

### Gauging Quality and Accuracy (Editing)

*“If do not understand the language of the original text, I really cannot trust whatever that translated result is, because after all it is through a device.*

*So I really want to understand whether it is exactly the same thing and whether it is actually the correct meaning.*

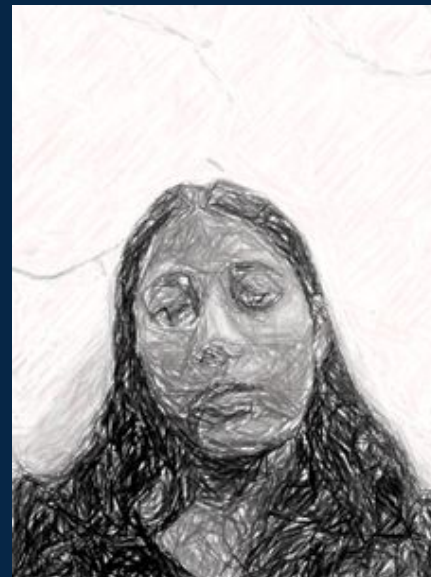
*That is a major concern in translation results.*

*So I don't translate entire articles in another language (I don't know) because for that you require to know the language.*

*Basically photo related and also I use Wiki data and we can do translations for that also.*

*If it is very long then I don't attempt, because it is better not to rather than write something wrong.”*

*(P14 - Editor)*



### Gauging Quality and Accuracy (Editing)

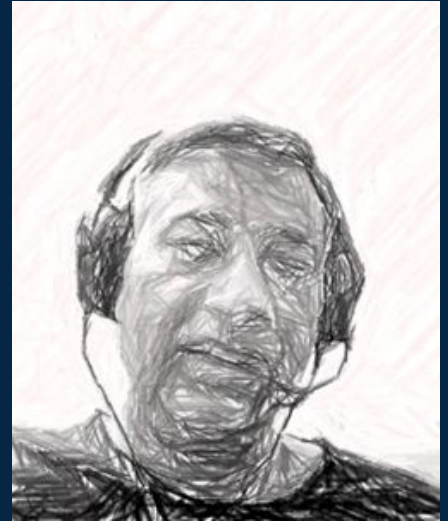
*“I am not confident that it has done 100% translation. (English to Awadhi) So I translate only non-sensitive and mainly such articles.*

*Suppose it is about a place, suppose it is telling us about the population of that place, so, as they say, by reading we get a rough idea. If the information is not causing any harm.*

*Are you understanding? If I say there are 5 ponds in Delhi. If in the translation, it says they are 6, it doesn't make any difference. There's no harm done by it.*

*But if the name of the Chief Minister of Delhi is misspelled, It can inflate into a big controversy.”*

*(P08 - Editor)*



### Gauging Quality and Accuracy (High Stakes Content)

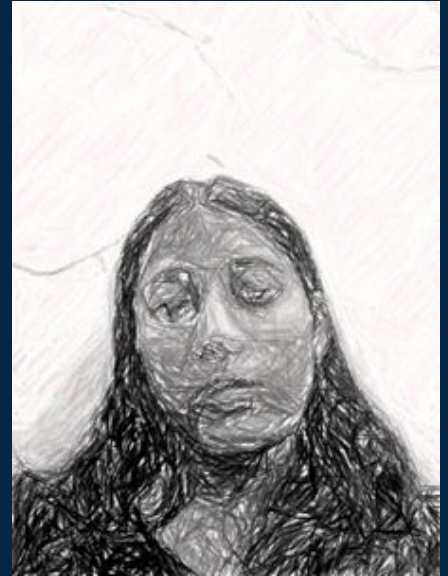
*“Recently I was searching for colleges abroad and I was looking at colleges in Germany.*

*On that website everything was in German and I really had to depend on the machine to provide me with the correct translation because I don't know any German.*

*If I don't know anything about that language at all and I know nothing about the German colleges, then the correct information has to come to me through the translation and I am completely dependent on it.*

*If something is missing in that information it will be a matter of concern for me.”*

*(P14 - Editor)*



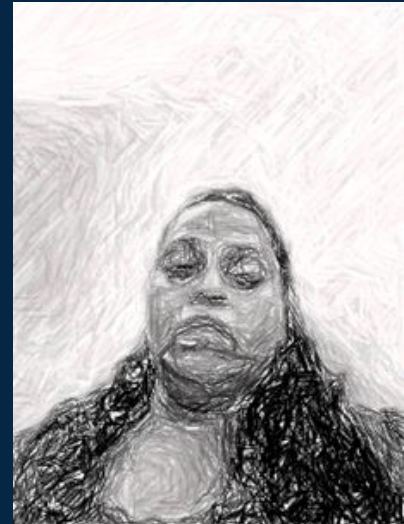
Readers understand and appreciate that Wikipedia content is available in 300+ languages, but speculate about the implementation.

- *'High Tech / Advanced technology and software' / 'Artificial Intelligence'*
- *'Via Google'*
- *'Maybe people put up content in their languages and Wikipedia creates an index or something.'*
- *'These days you get smartphones that have different language options.'*
- *'They re-upload any content in 100 languages.'*
- *'Maybe they are linked to a translator tool.'*
- *'I think they must be contracting content creators like me who are masters in their own language.'*
- *'It's a big organization. They have their own team that translates languages. It shows how big and diversified the company is.'*

*“It is very good that everyone will benefit. All languages. Everyone doesn't know English. Everyone doesn't know Hindi. It is very good that if it is reaching so many people. If it is in so many languages, then it means that people are seeing it with so many languages. They are getting help in this.*

*Like if I am finding something heavy in English, or I am feeling that this statement is not good, then I have an option to look at it in Hindi, in my own language. Then I will understand it quickly.”*

*(P02 - Monolingual Reader)*



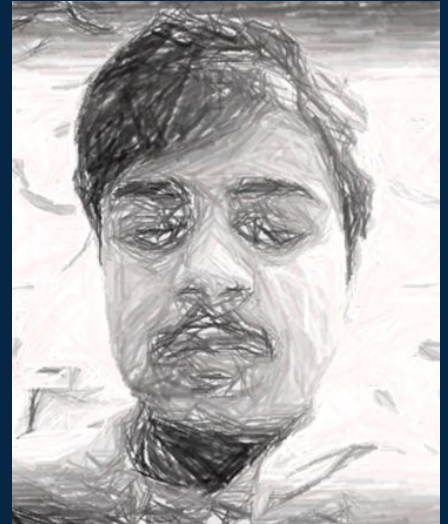


*“I feel Wikipedia is the best platform for any information and if it is available in so many languages, then I feel it will be quite convenient for the people.*

*They can search it in their mother tongue.*

*I trust Wikipedia a lot and the platform wants more and more people to associate with it. With 300 languages, a lot of people will use it.”*

*(P15 - Monolingual Reader)*

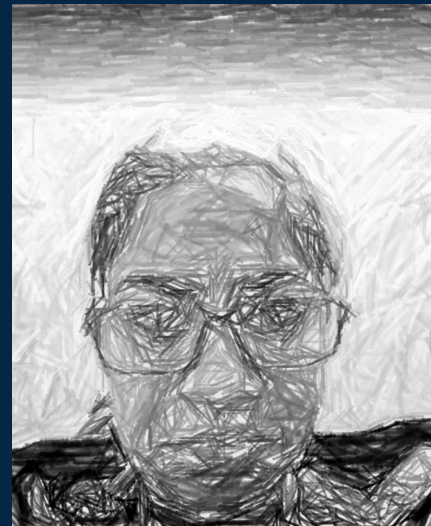


*"I knew that it is available in different languages, but I didn't know that it is available in 300 different languages.*

*Maybe it is because I am reading it in Hindi, but someone else is comfortable reading it in Tamil.*

*It is easy if you can change the language according to you. If anyone wants to read the content in any particular language because he doesn't understand any other language."*

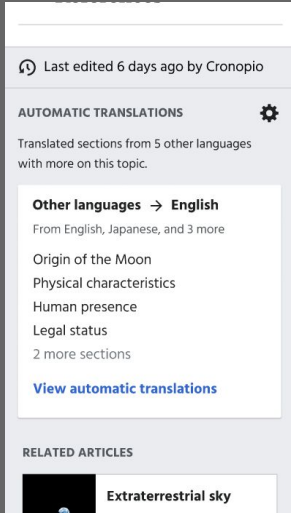
*(P19 - Monolingual Reader)*



# Concept Feedback

## Concept 1

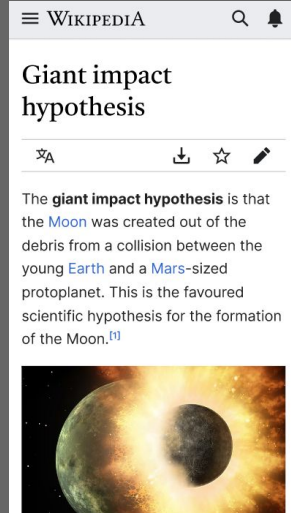
Surfacing missing sections after the article



Wikipedia article interface showing the 'AUTOMATIC TRANSLATIONS' sidebar. The sidebar lists 'Other languages' with 'English' selected, and provides a list of related articles including 'Origin of the Moon', 'Physical characteristics', 'Human presence', 'Legal status', and '2 more sections'. A 'View automatic translations' button is visible at the bottom of the sidebar. Below the sidebar, 'RELATED ARTICLES' are shown, including 'Extraterrestrial sky'.

## Concept 2

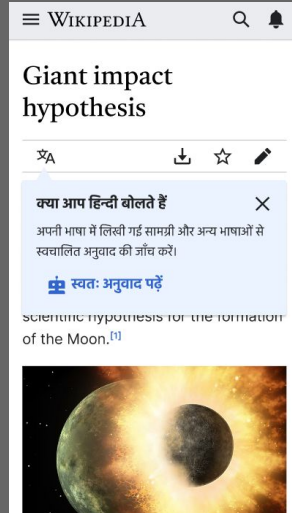
Language Selector



Wikipedia article interface showing the 'Giant impact hypothesis' article. A language selector overlay is visible, displaying 'व्या' (Vya) and 'A' (A) options, along with download, star, and edit icons.

## Concept 3 (Variation of 2)

Language Selector Popup



Wikipedia article interface showing the 'Giant impact hypothesis' article. A language selector popup is visible, displaying 'व्या आप हिन्दी बोलते हैं' (Vya Aap Hindhi Bolate Hain) and 'अपनी भाषा में लिखी गई सामग्री और अन्य भाषाओं से स्वचालित अनुवाद की जाँच करें।' (Check for automatically translated content in your language and other languages). Below the popup, there is a link for 'स्वतः अनुवाद पढ़ें' (Read self-translated content).

## Concept 4

Search



Wikipedia article interface showing the 'विशाल प्रभाव परिकल्पना' (Giant impact hypothesis) article. A search bar is visible at the top, and a keyboard is shown at the bottom.




















## Concept 5

Machine Translation Home



Machine Translation Home page showing the 'चंद्रमा' (Moon) article. The page displays the article title, a language selector, and a list of related articles including 'अधिक स्तंभ (हिंदी में पहले से उपलब्ध)' (More columns (available in Hindi first)) and 'शारीरिक विशेषताएँ' (Physical characteristics).

	<b>Concept 1</b>	<b>Concepts 2, 3</b>	<b>Concept 4</b>	<b>Concept 5</b>
	<i>Surfacing missing sections after the article</i>	<i>Language Selector</i>	<i>Search</i>	<i>Machine Translation Home</i>
<b>Discoverability</b>	<i>Is it easy for users to find the features and functions that they need?</i>			
<b>Clarity (Headings, Labels)</b>	<i>Do labels effectively convey the intended purpose or function?</i>			
<b>Consistency</b>	<i>Is the labeling and design across different parts of the prototype consistent?</i>			
<b>Self Evidence</b>	<i>Are features and functions easy to understand without support or additional explanation?</i>			
<b>Usefulness/Value</b>	<i>Are features valuable / relevant to users?</i>			


	Concept 1	Concepts 2, 3	Concept 4	Concept 5
	<i>Surfacing missing sections after the article</i>	<i>Language Selector</i>	<i>Search</i>	<i>Machine Translation Home</i>
<b>Discoverability</b>				NA
<b>Clarity (Headings, Labels)</b>				
<b>Consistency</b>				
<b>Self Evidence</b>				
<b>Usefulness/Value</b>				

WIKIPEDIA

# Moon

🗨️ ⬇️ ☆ ✎

**The Moon** is [Earth](#)'s only [natural satellite](#). We usually see it in the night sky and also during the day. Some other planets also have moons or natural satellites.



🕒 Last edited 6 days ago by Cronopio

**AUTOMATIC TRANSLATIONS** ⚙️

Translated sections from 5 other languages with more on this topic.


**Other languages** → **English**

From English, Japanese, and 3 more

- Origin of the Moon
- Physical characteristics
- Human presence
- Legal status
- 2 more sections

[View automatic translations](#)

**RELATED ARTICLES**

 **Extraterrestrial sky**

# Concept 1: Version 1


*Surfacing missing sections after the article*

WIKIPEDIA

# Moon

🌐 ⬇️ ☆ ✎

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- Origin of the Moon
- Physical characteristics
- Human presence
- Legal status
- 2 more sections

[View automatic translations](#)

**RELATED ARTICLES**

 **Extraterrestrial sky**

## Concept Description

*At the end of the main article content, a card is shown with additional sections present in other languages that the user may not know, but for which machine translation can be used to learn from. Users also have an option to improve the quality of the MT by reviewing and correcting the MT text.*

## Study Scenario

“I would like you to imagine that you or your child are preparing a presentation about the moon. You decide to visit Wikipedia to find information that you can use in the presentation.

You discover an article about the moon that is written in (target language), but then find that the article covers only some of the information that you need.”



## RITE 1: Key Finding # 1

The MT card has \*low discoverability.

- *Headings / instructions provided are not read.*

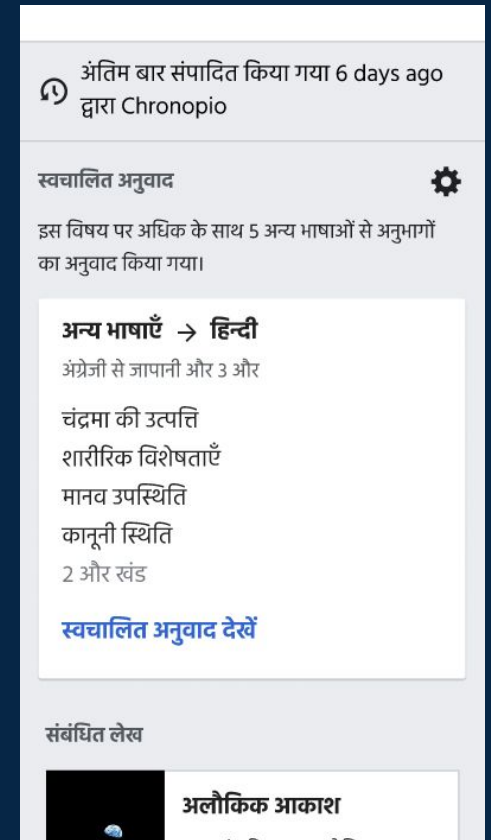
*While some participants identify the MT card as the source of further information on the topic, they do not differentiate MT content from other available (original) content.*

The screenshot shows a Wikipedia article interface in Hindi. At the top, it says 'अंतिम बार संपादित किया गया 6 days ago द्वारा Chronopio'. Below that, there is a section titled 'स्वचालित अनुवाद' (Automated Translation) with a gear icon. The text below this section reads: 'इस विषय पर अधिक के साथ 5 अन्य भाषाओं से अनुभागों का अनुवाद किया गया।' (This topic has been translated from 5 other languages with more on this subject). A white box contains the text: 'अन्य भाषाएँ → हिन्दी' (Other languages → Hindi), followed by 'अंग्रेजी से जापानी और 3 और' (From English to Japanese and 3 more), and a list of topics: 'चंद्रमा की उत्पत्ति' (Origin of the Moon), 'शारीरिक विशेषताएँ' (Physical characteristics), 'मानव उपस्थिति' (Human presence), 'कानूनी स्थिति' (Legal status), and '2 और खंड' (2 more sections). Below this box is a link 'स्वचालित अनुवाद देखें' (View automated translation). At the bottom, there is a section 'संबंधित लेख' (Related articles) with a card for 'अलौकिक आकाश' (Astronomy).


## RITE 1: Key Finding # 2

Content is scanned superficially, and participants misinterpret the function of the MT card.

- *Seeing topics written in the target language is confusing*
  - *This cues that content from the target language may be translated to other languages like English and Japanese.*



अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

स्वचालित अनुवाद 


इस विषय पर अधिक के साथ 5 अन्य भाषाओं से अनुभागों का अनुवाद किया गया।

**अन्य भाषाएँ → हिन्दी**  
अंग्रेजी से जापानी और 3 और

चंद्रमा की उत्पत्ति  
शारीरिक विशेषताएँ  
मानव उपस्थिति  
कानूनी स्थिति  
2 और खंड

[स्वचालित अनुवाद देखें](#)

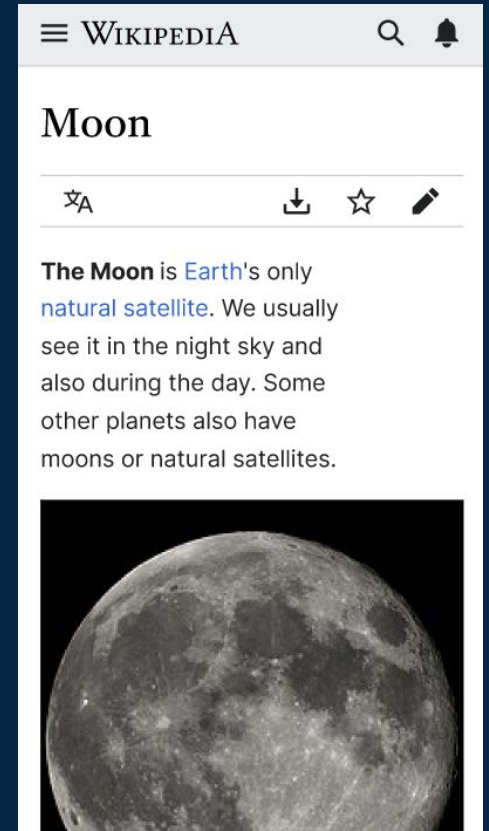
संबंधित लेख

 अलौकिक आकाश

## 😊 RITE 1: Key Finding # 3

'Search is the default' go-to for many readers wanting to find more info / detail than what is presented on the article being viewed.

This finding confirms the hypothesis that linking Search to MT content (Concept 4) will support user behavior.




WIKIPEDIA

# Moon

📄 📥 ☆ ✎

**The Moon** is [Earth](#)'s only [natural satellite](#). We usually see it in the night sky and also during the day. Some other planets also have moons or natural satellites.



🕒 Last edited 6 days ago by Cronopio

**AUTOMATIC TRANSLATIONS**

🗣 English → English

Moon → Moon

Origin of the Moon


**Origin of the Moon**

The giant impact hypothesis is that the...

**5 more sections**

🗣 [View automatic translations](#)

**RELATED ARTICLES**

 **Extraterrestrial sky**  
Extraterrestrial view of out...

# Concept 1: Version 2


*Surfacing missing sections after the article*

WIKIPEDIA

# Moon

🗨️ ⬇️ ☆ ✎

**The Moon** is [Earth](#)'s only [natural satellite](#). We usually see it in the night sky and also during the day. Some other planets also have moons or natural satellites.



🔊 Last edited 6 days ago by Cronopio

**AUTOMATIC TRANSLATIONS**

🗨️ English → English

Moon → Moon

Origin of the Moon


**Origin of the Moon**

The giant impact hypothesis is that the...

**5 more sections**

🗨️ [View automatic translations](#)

**RELATED ARTICLES**

 **Extraterrestrial sky**  
Extraterrestrial view of out...

## Concept Description

*At the end of the main article content, a card is shown with additional sections present in other languages that the user may not know, but for which machine translation can be used to learn from. Users also have an option to improve the quality of the MT by reviewing and correcting the MT text.*

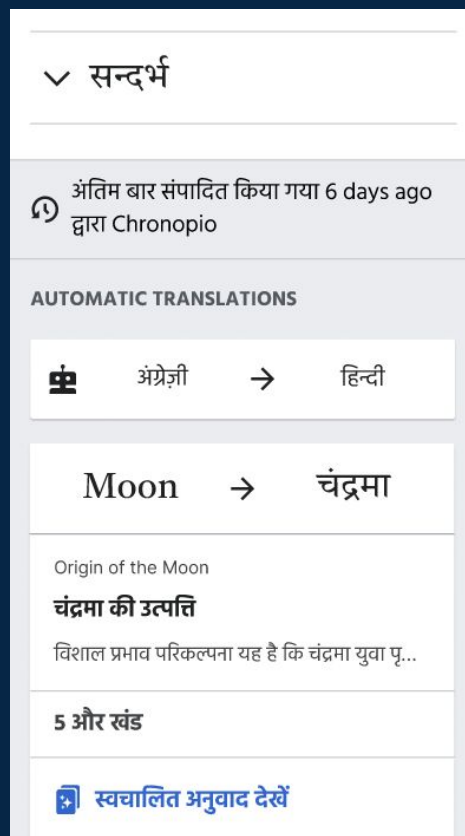
## Study Scenario

“I would like you to imagine that you or your child are preparing a presentation about the moon. You decide to visit Wikipedia to find information that you can use in the presentation.

You discover an article about the moon that is written in (target language), but then find that the article covers only some of the information that you need.”

## Design iteration based on RITE 1 feedback:

- *The MT card is updated to communicate its function more visually; Instructions are removed since users were skipping them.*
- *Automatic translated contents are surfaced in a separate card below the language pair.*
- *Only one section is displayed. (vs. previous 4 sections)*
- *Article and section titles are shown in both source and target languages to communicate the concept of translation.*
- *In addition to blue color, the call to action uses an icon for added visibility.*

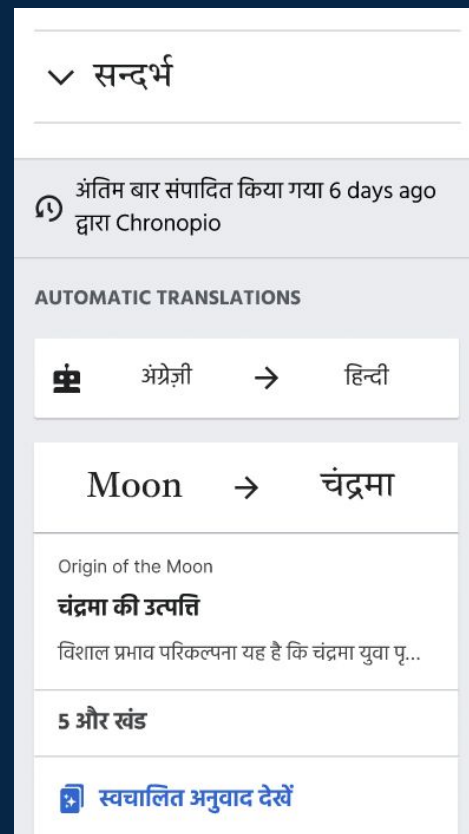


## RITE 2: Finding # 1

Compared to the RITE 1 version, the MT card is more easily differentiated from other content.

However, it continues to have low discoverability.

- *Some participants tend to stop scrolling at the end of the article (After references)*
- *Others tend to explore possible options in order of placement on the screen. (top > bottom)*



*(Example) - Options used by readers:*

*Several readers attempt to search / 'find more content' about the topic being viewed through the pen icon.*

*Individual readers look at - The hamburger menu, 'References' ('Sandarbh'), Wikilinks, the language icon, 'Related Articles, information within subsections...*

The screenshot shows the Hindi Wikipedia page for 'चंद्रमा' (Moon). Several UI elements are highlighted with red circles:

- The hamburger menu icon (☰) in the top left corner.
- The search icon (🔍) in the top right corner.
- The 'A' icon (🔍) in the top left of the article content area.
- The 'pen' icon (✎) in the top right of the article content area.
- The 'नाम और व्युत्पत्ति' (Name and Etymology) section header.
- The 'सन्दर्भ' (References) section header.
- The 'स्वचालित अनुवाद देखें' (View automatic translations) button.
- The 'संबंधित लेख' (Related articles) section header.
- The 'अलौकिक आकाश' (Alokaik Akasha) article snippet.
- The 'चंद्रमा की कक्षा' (Chandrama ki Kakscha) article snippet.
- The 'पृथ्वी त्रिज्या' (Pृथ्वी trijnya) article snippet.
- The 'विकिपीडिया' (Wikipedia) logo.
- The 'सामग्री CC BY - SA 4 के तहत उपलब्ध है' (Material is available under CC BY - SA 4) notice.
- The 'उपयोग की शर्तें' (Terms of use) link.

The main text of the article reads: 'चंद्रमा पृथ्वी का एकमात्र का एकमात्र है।<sup>[१]</sup> यह सौर मंडल का पाँचवाँ, सबसे विशाल प्राकृतिक उपग्रह है। इसका आकार क्रिकेट बॉल की तरह गोल है। और यह खूद से नहीं चमकता 27 दिन 6 घंटे में पूरा करता है और अपने अक्ष के चारों प्रकाशित होता है। और एक पूरा चक्कर भी 27.3 दिन में लगाता है।'



(Example) - Options used by editors:

- Looking for relevant Wikilinks
- Expanding subsections
- Checking 'References' ('Sandarbh')
- Going to desktop mode
- Clicking on the language translate icon (To look for articles in other languages)

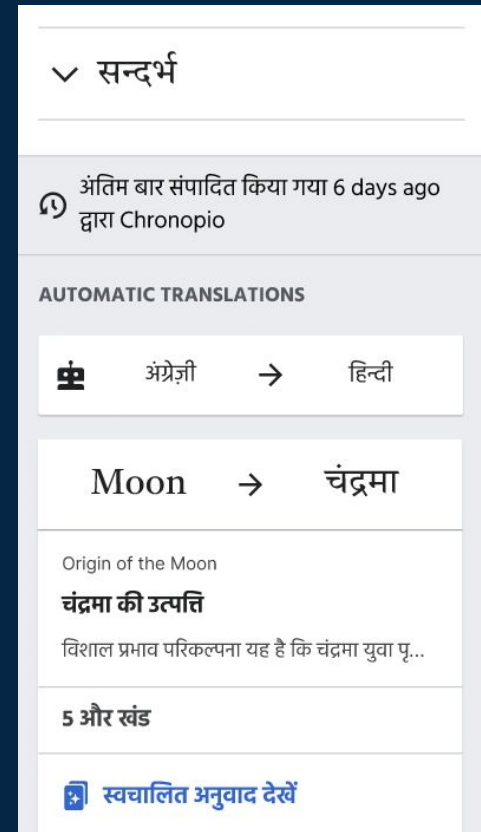
The screenshot shows the Hindi Wikipedia page for 'चंद्रमा' (Moon). The page title is 'चंद्रमा' and it includes a search bar, a language icon (A), a download icon, a star icon, and an edit icon. The main text describes the Moon as the only natural satellite of Earth. Below the text is a thumbnail image of the Moon. The page is divided into sections: 'नाम और व्युत्पत्ति' (Name and Etymology) and 'सन्दर्भ' (References). The 'सन्दर्भ' section is expanded, showing a list of references. The first reference is 'अंतिम बार संपादित किया गया 6 days ago द्वारा Chronopio'. Below the references is a section for 'AUTOMATIC TRANSLATIONS' with a language selector showing 'अंग्रेज़ी' (English) and 'हिन्दी' (Hindi). Below that is another language selector showing 'Moon' and 'चंद्रमा'. At the bottom, there is a section for 'Origin of the Moon' with the heading 'चंद्रमा की उत्पत्ति' (Origin of the Moon).

## RITE 2: Finding # 2

Participants do not immediately recognize the MT card as an option to view additional content in the target language.

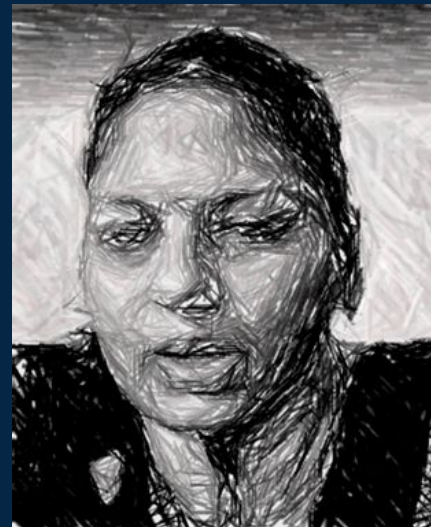
- The current conceptual model is based on how automatic translation is predominantly used on the internet today, through tools like Google. **(Translate the content being viewed into a preferred language.)**

This conceptual model needs to be realigned for them to recognize the purpose of the MT card. **(Find additional content that is unavailable in target language through automatic translation)** Currently this happens only on being encouraged / prompted by the moderator.



*“Here there is only a ‘translate’ option available.  
This will only translate the text.”*

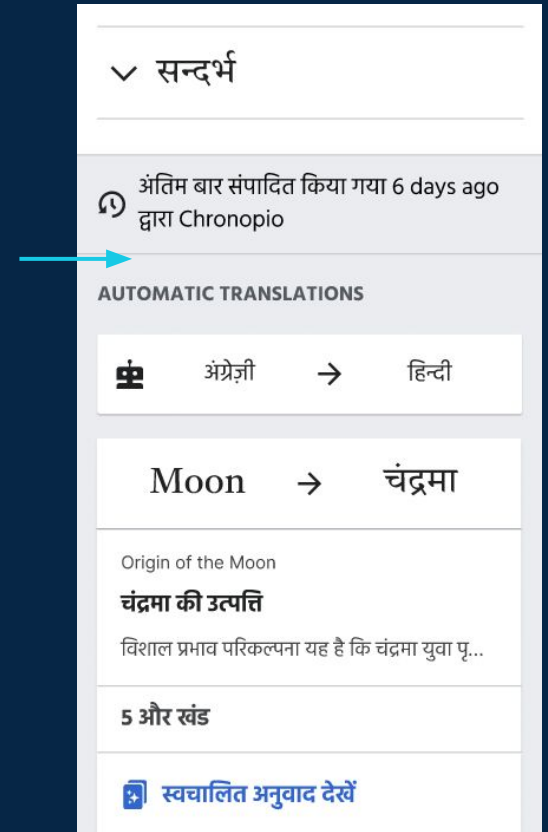
*(P22 - Monolingual Reader)*





## RITE 2: Recommendation

- Place a visually prominent message at the end of the main article to communicate that further information about the topic is available, but translated from other languages.
- Consider using a popup format to stand out from other information on the screen. The popup format in Concept 3 (RITE 2) is noticed immediately and appreciated by most participants.



## 😊 RITE 2: Finding # 3

Multiple signifiers on the MT card cue more info is on available on click.

- *The three dots next to the 'origin of the moon' description*
- *Blue color of the 'automatic translation' hyperlink*
- *Indication that there are 5 more sections.*

सन्दर्भ

अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

AUTOMATIC TRANSLATIONS

अंग्रेज़ी → हिन्दी

Moon → चंद्रमा

Origin of the Moon  
चंद्रमा की उत्पत्ति  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृ...

5 और खंड

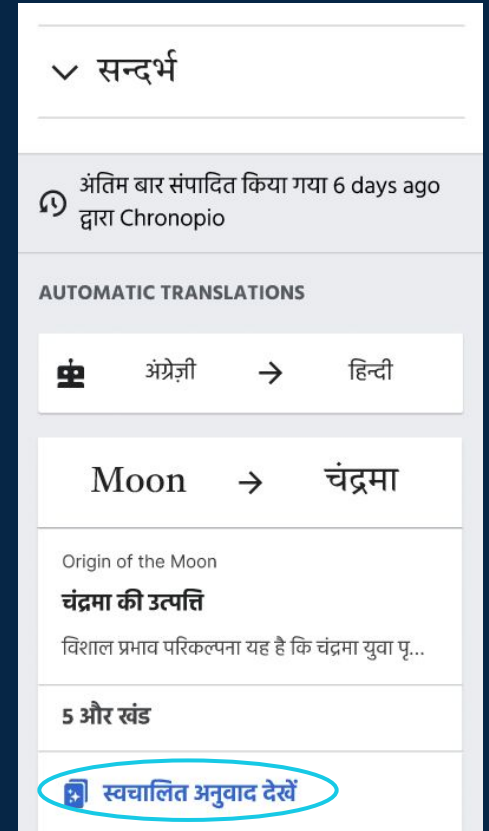
स्वचालित अनुवाद देखें

## RITE 2: Finding # 4

*During RITE 1, Awadhi readers found the term for 'Automatic Translation' ('Swachalit Anuwad') formal and hard to understand.*

- The term 'Swachalith' continues to challenge readers, although some guess the meaning (automatic) after some thought.
- The term 'Anuvad' is understood more easily, though it is not always interpreted to mean 'translation'.

*(Individual readers interpret this term to mean - Elaborate / Detailed / Explanation / Translation)*



✓ सन्दर्भ

🔔 अंतिम बार संपादित किया गया 6 days ago द्वारा Chronopio

**AUTOMATIC TRANSLATIONS**

🏠 अंग्रेज़ी → हिन्दी

Moon → चंद्रमा

Origin of the Moon  
**चंद्रमा की उत्पत्ति**  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृ...

5 और खंड

[📖 स्वचालित अनुवाद देखें](#)

## 😊 RITE 2: Finding # 5


The screen on clicking on the MT card is as expected by more than ½ the participants.

- *More information / details about the topic 'Moon'*

However, some participants find this screen confusing / unexpected.

- *Expectation to see a comparative view (English + translated content)*
- *Expectation to see a more detailed screen (Content in similar format to the start screen)*
- *Confusion on seeing 'English to Hindi' indication / Content beyond 'origin of the moon' (When the expectation is to see a translation of content from the previous page / Just the 'Origin of the moon' article.)*



 चंद्रमा ×

🇮🇳 स्वचालित: अंग्रेजी → हिंदी ▾

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

---

**चंद्रमा की उत्पत्ति** →

विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।



---

**शारीरिक विशेषताएँ** →

चंद्रमा का गुरुत्वाकर्षण पृथ्वी से कम है (पृथ्वी पर इसकी मात्रा का केवल 1/6 भाग)।



*“I expected the information in paragraph form, but here the heading is given and it has been explained in 2-3 lines.*

*This is better. I feel this is enough as per the heading.  
If there is too much information, then people do not read.”*

*(P15 - Monolingual Reader)*



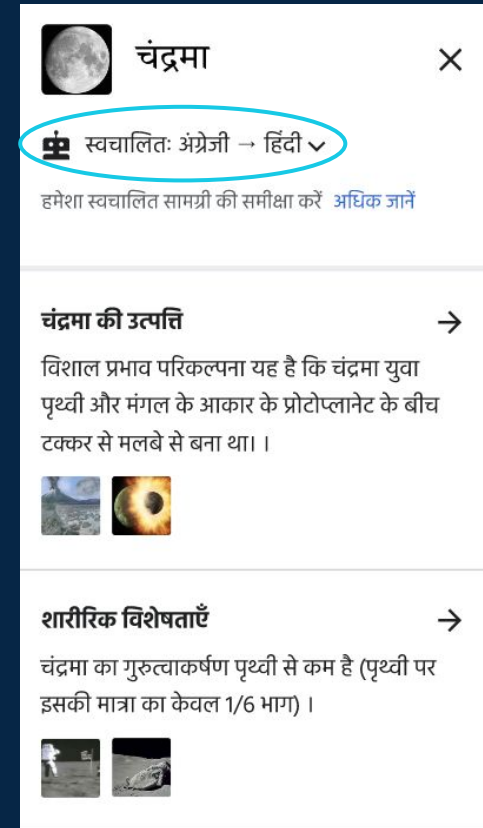


## RITE 2: Finding # 6

Multilingual readers only partially understand, but appreciate the language change option.

Rather than an option to change both the origin and target language to find and display additional content, this is interpreted as an option to just change the language of content being displayed.

- *MLR's who are native Hindi speakers, speak Hindi fluently, but prefer / are more fluent in reading and writing English.*
- *A native Chhattisgarhi speaker, preferred to read in Hindi, as that is the language he is accustomed to read and write in. (Chhattisgarhi is only used in verbal interactions)*



The screenshot shows a Wikipedia article in Hindi. At the top, the article title is "चंद्रमा" (Chandrama) with a moon icon. Below the title, there is a language change dropdown menu that has been highlighted with a red circle. The dropdown menu shows the current language as "हिंदी" (Hindi) and a list of other languages including "अंग्रेजी" (English). Below the dropdown, there is a text box with the Hindi text "हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें". The article content is divided into sections: "चंद्रमा की उत्पत्ति" (Origin of Chandrama) and "शारीरिक विशेषताएँ" (Physical Characteristics). The "चंद्रमा की उत्पत्ति" section contains the text "विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।" and two small images of celestial bodies. The "शारीरिक विशेषताएँ" section contains the text "चंद्रमा का गुरुत्वाकर्षण पृथ्वी से कम है (पृथ्वी पर इसकी मात्रा का केवल 1/6 भाग)।" and two small images of the moon's surface.

P21-MLR appreciates the option, as he would like to toggle between English and Hindi to aid understanding / if he found something hard to understand.



*(P21 - Multilingual Reader)*

P17-MLR appreciates the option, as even if she needs Hindi content, she would prefer to first read in English to understand.

Some Hindi words, especially formal and technical words can be hard to understand even for native Hindi speakers.

## ← चंद्रमा चंद्रमा की उत्पत्ति

✎ स्वचालित अनुवाद की समीक्षा करें  
लेख में सुधार और जोड़ें

अंग्रेज़ी में खोलें ८

चंद्र नमूनों की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।

विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटो ग्रह के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>



(P17 - Multilingual Reader)

## RITE 2: Finding # 7

All 3 editors who participated in the study are able to differentiate between the two types of links. (MT vs. original content)

On the other hand, the difference between the links is not self-evident to readers, who tend to focus on the content rather than on instructions or headings.

- *Only 1 out of 9 readers who attempted this task correctly differentiated between the two links.*

The screenshot shows a Hindi Wikipedia article titled "चंद्रमा की उत्पत्ति" (Origin of the Moon). At the top, there is a navigation bar with a back arrow and the title. Below the title, there is a blue button that says "स्वचालित अनुवाद की समीक्षा करें" (Review automatic translation) and "लेख में सुधार और जोड़ें" (Improve and add to the article). The main text of the article is in Hindi. Two callout boxes are overlaid on the screenshot. The first callout box highlights the text "चंद्र नमूने की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।" (From lunar sample isotope dating, it is known that the Moon was formed about 50 million years after the formation of the solar system). The second callout box highlights the text "सौर मंडल की उत्पत्ति" (Formation of the solar system) and "सौर मंडल का निर्माण लगभग 4.6 अरब वर्ष पहले एक विशाल आणविक बादल के एक छोटे से हिस्से के गुरुत्वाकर्षण पतन के साथ शुरू हुआ था।" (The solar system was formed about 4.6 billion years ago from a small part of a vast molecular cloud, as a result of the gravitational collapse of a part of the cloud).

चंद्रमा की उत्पत्ति

स्वचालित अनुवाद की समीक्षा करें  
लेख में सुधार और जोड़ें

अंग्रेज़ी में खोलें

चंद्र नमूने की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।

निश्चित रूप से, यह है कि चंद्रमा का निर्माण सौर मंडल के आकार के प्रोटो ग्रह के बाद हुआ था। यह चंद्रमा के ज्ञानिक परिकल्पना है।<sup>[1]</sup>

आइसोटोप डेटिंग

स्वचालित अनुवाद

रेडियोमेट्रिक डेटिंग या रेडियोआइसोटोप डेटिंग एक ऐसी तकनीक है जिसका उपयोग घटानों या कार्बन जैसी सामग्रियों को डेट करने के लिए किया जाता है जिसमें रेडियोधर्मी अशुद्धियों का पता लगाने के लिए चुनिंदा रूप से शामिल किया गया था जब वे बने थे।

स्वचालित अनुवाद देखें

सौर मंडल की उत्पत्ति

हिंदी में लिखा गया

सौर मंडल का निर्माण लगभग 4.6 अरब वर्ष पहले एक विशाल आणविक बादल के एक छोटे से हिस्से के गुरुत्वाकर्षण पतन के साथ शुरू हुआ था।

पढ़ें लेख

- 3 readers were unable to differentiate between the links, apart from the difference in topic.
- 1 reader understood the difference, only after the moderator highlighted that one is a MT.
- After being prompted by the moderator to see if there is a difference beyond the topic, 2 readers understood that one of the links is MT content. However, they did not decipher or articulate the MT vs. original content differentiation; Only that 'more info' is available through the other link.
- 2 readers, influenced by the format seen in earlier screens, interpret that the links differ by topic and format. ('Read Automatic Translation' to link to more detail presented in shorter paragraph format / headings; While 'Read Article' to link to content in an 'essay type' format that is more in depth).

## ← चंद्रमा चंद्रमा की उत्पत्ति

 स्वचालित अनुवाद की समीक्षा करें

लेख में सुधार और जोड़ें

अंग्रेज़ी में खोलें 

चंद्र नमूनों की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।

निश्चल आकार की परिकल्पना यह है कि चंद्रमा का आकार के आकार के प्रोटो ग्रह से हुआ था। यह चंद्रमा के ज्ञानिक परिकल्पना है।<sup>[1]</sup>



आइसोटोप डेटिंग




स्वचालित अनुवाद

रेडियोमेट्रिक डेटिंग या रेडियोआइसोटोप डेटिंग एक ऐसी तकनीक है जिसका उपयोग चट्टानों या कार्बन जैसी सामग्रियों को डेट करने के लिए किया जाता है जिसमें रेडियोधर्मी अशुद्धियों का पता लगाने के लिए चुनिंदा रूप से शामिल किया गया था जब वे बने थे।

स्वचालित अनुवाद देखें



सौर मंडल की उत्पत्ति

 हिंदी में लिखा गया

सौर मंडल का निर्माण लगभग 4.6 अरब वर्ष पहले एक विशाल आणविक बादल के एक छोटे से हिस्से के गुरुत्वाकर्षण पतन के साथ शुरू हुआ था।

पढ़ें लेख

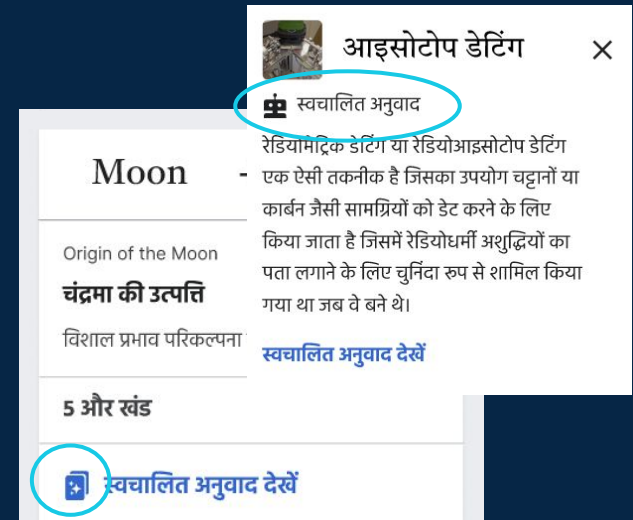
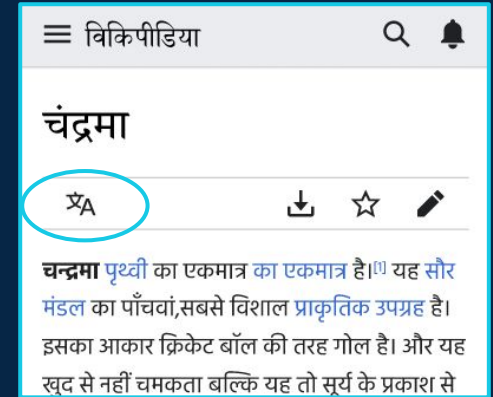




## RITE 2: Recommendation

- The language selector icon is better recognized and associated with translation than the icon currently used on the MT card / link popups.

Consider using the language selector icon consistently, to indicate ‘translation’.





## RITE 2: Finding # 8

Using MT content to supplement original content is perceived as necessary + useful by all participants, including editors.

- *'Something better than nothing...'*
- *'Useful if original content is not available...'*
- *'Would use if there was not enough content...'*
- *'Everything in one place - stay on wikipedia vs. go to Google...'*
- *'Shortcut to get more info - read in preferred language...'*
- *'Useful for people who don't know English...'*
- *'Less steps...'*
- *'More people can use Wikipedia...'*

✓ सन्दर्भ

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🔊 अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

**AUTOMATIC TRANSLATIONS**

🌐 अंग्रेज़ी → हिन्दी

Moon → चंद्रमा

Origin of the Moon  
**चंद्रमा की उत्पत्ति**  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृ...

5 और खंड

स्वचालित अनुवाद देखें

## 😊 RITE 2: Finding # 8

- *Several participants mention that the MinT MT content is easier to read than Google MT content in Hindi - which is not colloquial / uses formal Hindi words that are hard to understand.*
- *Participants appreciate that science content is made available in regional languages.*
- *Awadhi participants appreciate that Awadhi content can be made available through translation - Since this is otherwise rare.*


चंद्रमा  
← चंद्रमा की उत्पत्ति

✎ स्वचालित अनुवाद की समीक्षा करें  
लेख में सुधार और जोड़ें

अंग्रेज़ी में खोलें 🌐

चंद्र नमूनों की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।

विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटो ग्रह के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है। [1]





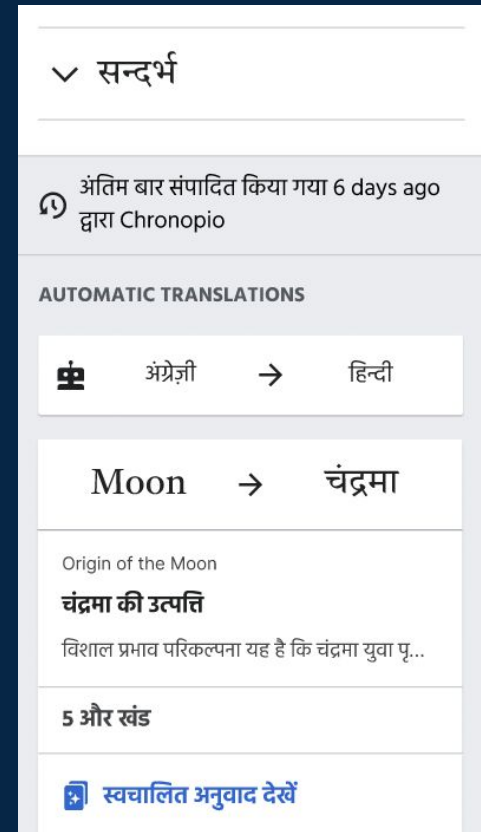
## RITE 2: Finding # 9

While acknowledging the MT feature as necessary + useful, editors and a few readers highlight concerns.

- *P14-Editor - Concern about quality, if content publishing is not restricted to editors.*
- *P19-Editor - Concerns about errors in the MT content impacting quality.*

*P24-Multilingual Reader - Concerns about errors in the MT content as well as errors in human edits on MT content.*

*Expects Wikipedia to review reader edited content / quality check before publishing.*



सन्दर्भ

अंतिम बार संपादित किया गया 6 days ago द्वारा Chronopio

AUTOMATIC TRANSLATIONS

अंग्रेज़ी → हिन्दी

Moon → चंद्रमा

Origin of the Moon  
चंद्रमा की उत्पत्ति  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृ...

5 और खंड

स्वचालित अनुवाद देखें

*“I think that it’s pretty good. I understand that it's not possible to write each and every article originally in Hindi. So, as a temporary solution, this is good.*

*But then, who is checking it to see if it’s appropriate or not?*

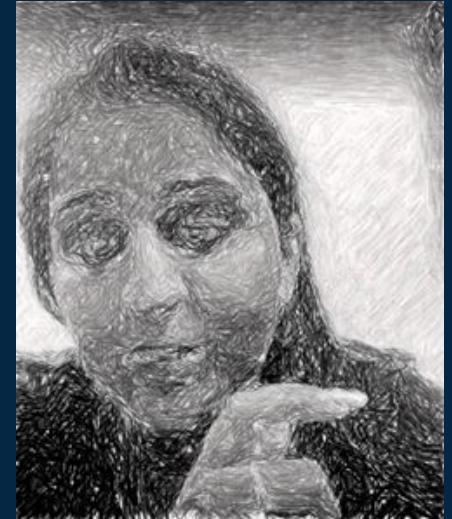
*The thing is that the content writers need to be very sharp and very sure about their knowledge and their writings.*

*So, you need to be very sure about your sources and the data that you are presenting.*

*But sometimes the automatic translations can change the meaning of a particular article or a particular sentence and misguide or mislead the viewers or the audience.*

*So, it might not be possible for me to edit it in an appropriate way. It's not necessary that if I edit it, then my edited translation would be correct.”*

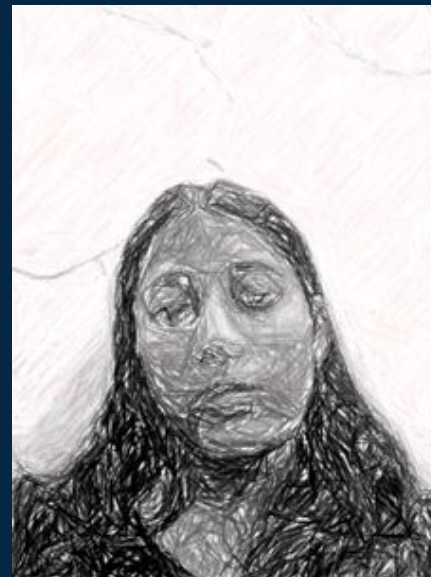
*(P24 - Multilingual Reader)*



*“If we are doing swachalit anuvad is it that it is only doing translation and it is not getting published I hope?”*

*Basically there are two types of users - one who is coming there to edit and another who is simply a reader. Readers do not come there for any editing and so they can be shown the translation and that would be enough for them.”*

*(P14 - Editor)*





## RITE 2: Finding # 10

Editors are interested in using the ‘review automatic translation’ feature if they see mistakes in the machine translation.

- P 13, 14 and 20 (Editors) - Note that the MinT UI makes editing on the phone easier. (Split screen, ‘½ the work already done by the machine’, ‘No need to open 10 different things’)
- P13-Editor notes that the pencil icon is a good cue.
- P20-Editor - Likes the option to skip to next paragraph.

← Translate section Done

### Origin of the Moon

Isotope dating of lunar samples suggests the Moon formed around 50 million years after the origin of the Solar System.

The giant impact hypothesis is that the Moon was created out of the debris from a collision between the young Earth and a

**Proposed translation from MinT** ...

Isotope dating of lunar samples suggests the Moon formed around 50 million years after the origin of the Solar System.

Edit translation

< Apply Skip >

*“I really like it. Whatever information is shown here on this page, I am quite sure that 99% of it will be correct. As for the wrong information, we can correct it directly from here.*

*Instead of going through the entire thing, I can just correct the wrong information by editing it from here. In this way, I will be able to save a lot of my time. I can just use the edit option and correct any wrong information or wrong spelling.”*

*(P13 - Editor)*



## 😊 RITE 2: Finding # 11

The majority of readers also understand the 'review automatic translation' feature, and are interested to edit MT content.

- *If not satisfied with the MT quality*
- *To simplify words*

चंद्रमा  
← चंद्रमा की उत्पत्ति

✎ स्वचालित अनुवाद की समीक्षा करें  
लेख में सुधार और जोड़ें

अंग्रेज़ी में खोलें [↗](#)

चंद्र नमूनों की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था सौर मंडल की उत्पत्ति के लाखों वर्ष बाद।

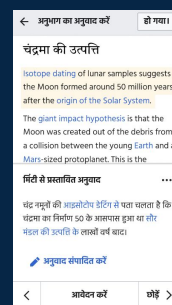
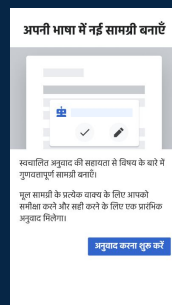
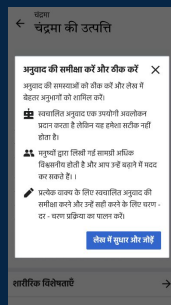
विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटो ग्रह के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>



P16-MLR however, highlights that the workflow has too many steps and is confusing.



*(Less steps recommended)*

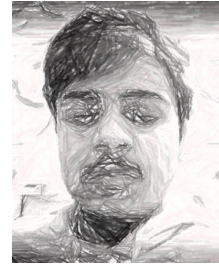


*(P16 - Multilingual Reader)*

Two readers are disinclined to use this feature to edit MT content.

- P15-MoR trusts Wikipedia content / translation.

- P17-MLR is not confident about editing.  
Would edit only if completely sure the word she wants to replace with is something everyone would understand better.



*(P15 - Monolingual Reader)*



*(P17 - Multilingual Reader)*





Review the automatic translation

Correct and add to the article

Two readers interpret the ‘Review’ feature incorrectly.

- Cued by the term ‘Add’ in the description, P-19-MoR interprets this as an option to add new information. (vs. correct translated content)

*This reader also articulates that she would like to be notified about feedback on her editing from other readers, as well as receive ‘likes’, comments or replies from other readers.*

- P21-MLR misinterprets (and appreciates) this as a feature to read content more easily - By finding synonyms for difficult words.

This participant also suggests that a ‘mic’ option to hear pronunciation of difficult words would be a useful feature.








(P19 - Monolingual Reader)



(P21 - Multilingual Reader)


# Concept 1

<b>Discoverability</b>		<p>The MT card continues to have low discoverability.</p> <ul style="list-style-type: none"><li>• Participants stop scrolling at the end of the article.</li><li>• Other possible options are explored before the MT card, in order of placement.</li></ul>
<b>Clarity (Headings, Labels)</b>		<p>Meaning of the term 'Swachalit Anuwad' (Automatic Translation) is not immediately evident / has multiple interpretations.</p>
<b>Consistency</b>		<ul style="list-style-type: none"><li>• Inconsistency in format between the original screen and the 1st screen of MT content confuses some users.</li><li>• The icon used in association with translation is inconsistently used across different screens.</li></ul>
<b>Self Evidence</b>		<ul style="list-style-type: none"><li>• It is not evident that the MT card is an option to find additional content in the target language.</li><li>• Readers only partially understand, the language change option.</li><li>• The difference between MT vs. original content wikilinks is not self evident to readers.</li></ul>
<b>Usefulness/Value</b>		<ul style="list-style-type: none"><li>• Using MT content to supplement original content is perceived as necessary + useful by all participants, including editors.</li><li>• Editors and Readers are interested in using the 'review automatic translation' feature if they are not satisfied with the quality of translation.</li></ul>

WIKIPEDIA

## Giant impact hypothesis

The **giant impact hypothesis** is that the [Moon](#) was created out of the debris from a collision between the young [Earth](#) and a [Mars](#)-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>



भाषाएँ

भाषा खोजें

हिंदी, कोरियाई और अन्य में गायब

सुझाए गए

Afrikaans	русский
Español	한국어
सभी भाषाएँ	
Afrikaans	
Esperanto	
Français	

+ भाषाएँ जोड़ें

## Concept 2: Version 1


### Language Selector

WIKIPEDIA

## Giant impact hypothesis

✎

The **giant impact hypothesis** is that the Moon was created out of the debris from a collision between the young Earth and a Mars-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>



भाषाएँ

भाषा खोजें

हिंदी, किरियाई और अन्य में गायब

सुझाए गए

Afrikaans	русский
Español	한국어

सभी भाषाएँ

Afrikaans

Esperanto

Français

+ भाषाएँ जोड़ें

## Concept Description

*On clicking the language selector icon, the user is presented with options to read a machine translation or manually translate the content.*

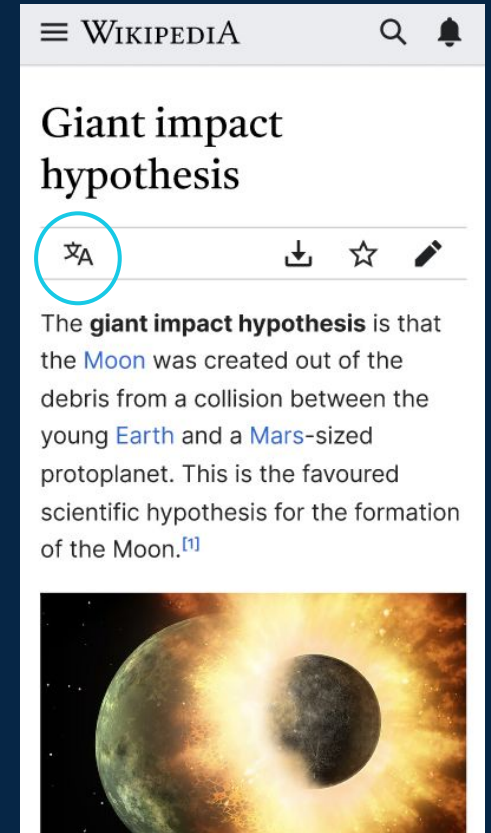
## Study Scenario

“Imagine that you want to know about how the moon was formed. You check Wikipedia, and find an English article on this topic - ‘Giant Impact Hypothesis’.

Your preferred language to read this is (target language). The Wikipedia concept I have shared has an option to translate articles from one language to another.”

## 😊 RITE 1: Key Finding # 1

Most participants correctly identify the language selector as the way to translate the English article to a different language.



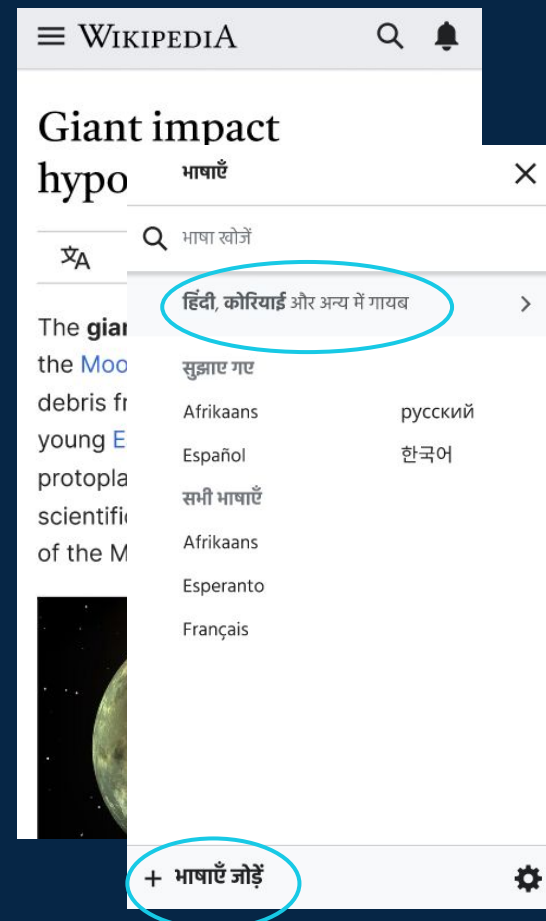
## RITE 1: Key Finding # 2

However, the screen that appears on clicking the language selector icon is unexpected.

- *Participants expect to see language options that can be selected to choose the language they want to translate the English article to.*

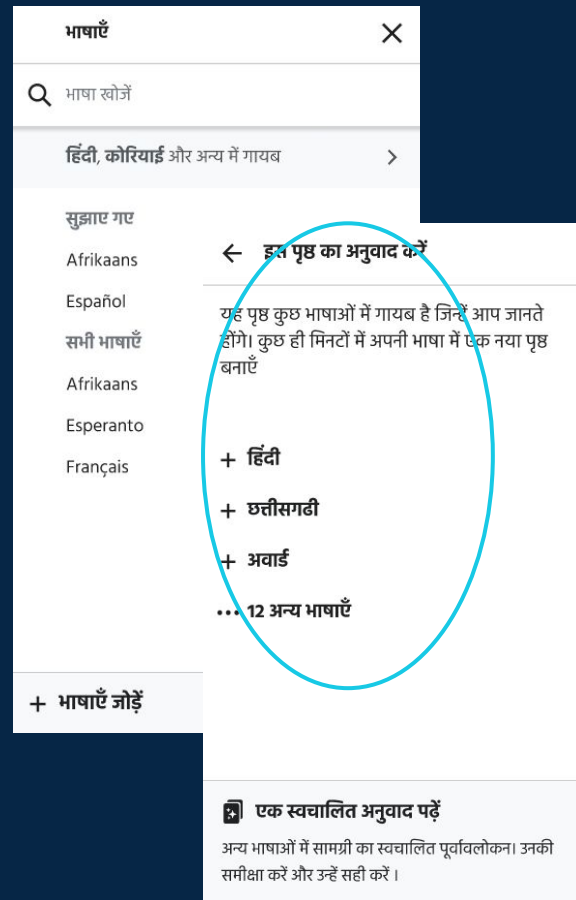
The labels 'Missing in...' and 'Add Languages' do not cue that they link to 'Read MT' / 'Translate' options.

- *The wording 'Missing in...' and the function of this section is not accurately interpreted / confuses participants.*
- *Participants overlook the 'Add Languages' option, or misinterpret / under interpret this option.*



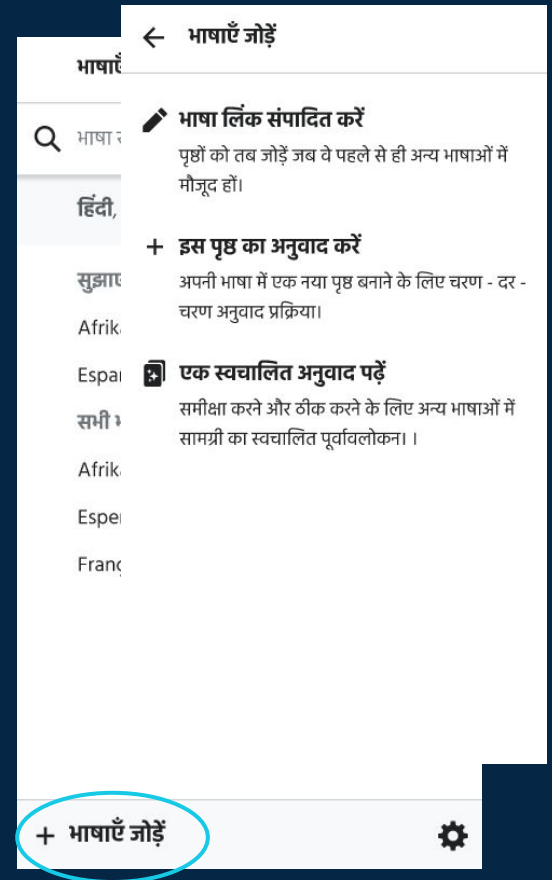
## RITE 1: Key Finding # 3

On clicking 'missing in..', the 'Translate this page' option is not accurately interpreted / confuses participants.



## 😊 RITE 1: Key Finding # 4

Participants have no difficulty understanding the options on the simpler screen that appears on clicking 'Add Languages'.



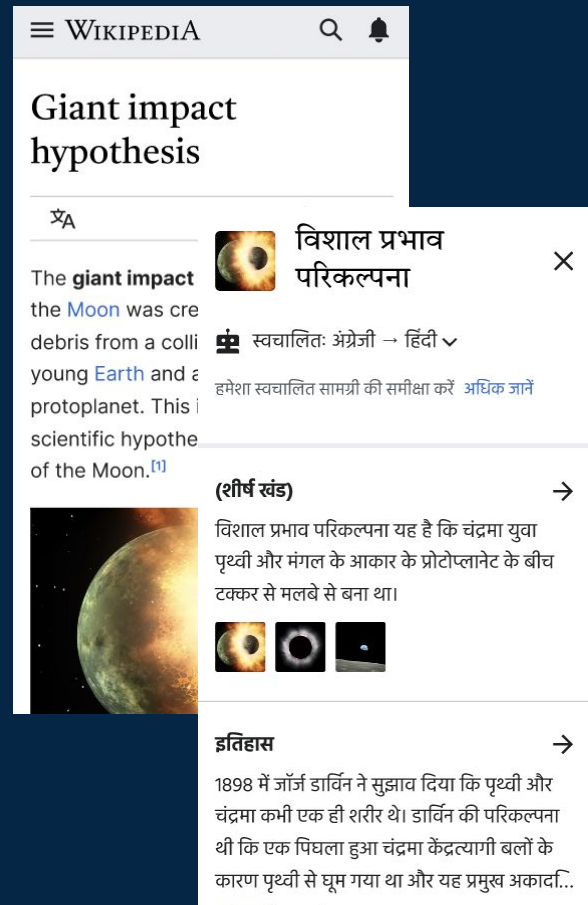


## RITE 1: Key Finding # 5

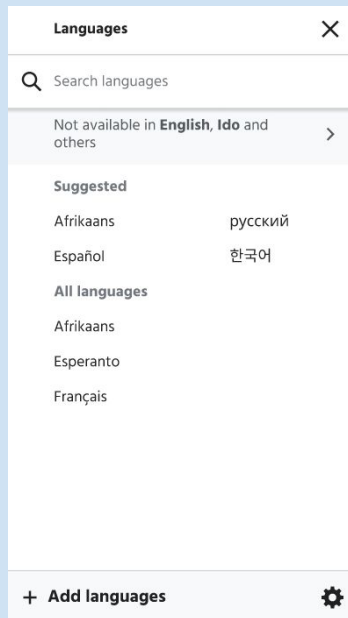
Change in format between the original article and automatically translated output confuses some participants.

- Participants are confused when selecting ‘**automatic translation**’ results in a page showing multiple summaries that need to be clicked into to read further.

Rather, the expectation is to see the translated content in the same format as the original English article.

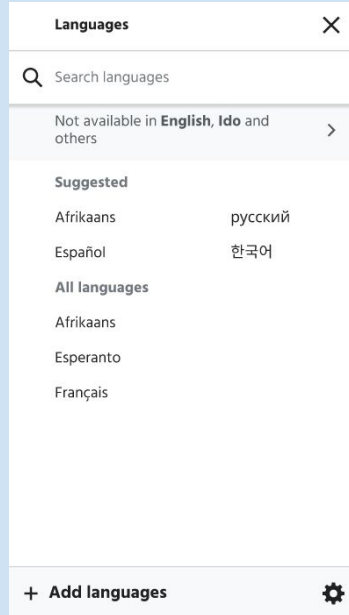
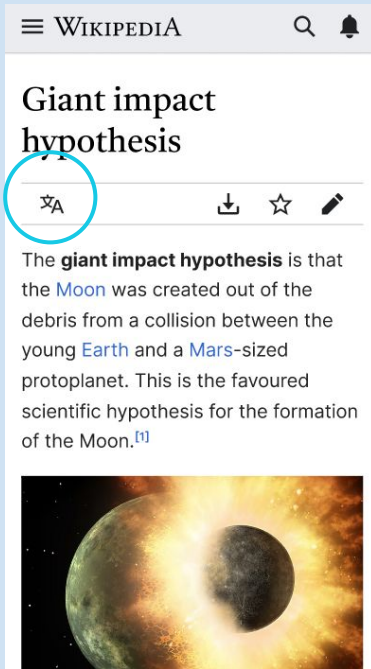


The screenshot shows a Wikipedia article titled "Giant impact hypothesis" in English. A translation overlay in Hindi is visible, titled "विशाल प्रभाव परिकल्पना" (Giant Impact Hypothesis). The overlay includes a search icon, a language selector (Hindi), and a "अधिक जानें" (Learn more) link. The main article text is partially visible, mentioning "The giant impact the Moon was created from a collision of debris from a collision of a young Earth and a proto-planet. This is a scientific hypothesis of the Moon." The overlay also features a large image of the Moon and a section titled "इतिहास" (History) which discusses the hypothesis proposed by Darwin in 1898.



## Concept 2: Version 2

### *Language Selector*



## Concept Description

*On clicking the language selector icon, the user is presented with options to read a machine translation or manually translate the content.*

## Study Scenario

“Imagine that you want to know about how the moon was formed. You check Wikipedia, and find an English article on this topic - ‘Giant Impact Hypothesis’.

Your preferred language to read this is (target language). The Wikipedia concept I have shared has an option to translate articles from one language to another.”

## Design iteration based on RITE 1 feedback:

- Language change in the missing languages banner - The term 'Not available' is used, instead of 'Missing In'.
- A single screen design is used for both entry points (Missing languages + Explicit intent to add languages). The new screen is based on the version that was more effective in RITE 1, with a small note on missing languages to make it work in both scenarios.
- Translated content is presented in a single view for the whole article to avoid fragmentation into sections.
- Users have a floating language pair as an indicator that the contents are machine translated. This element provides access to translation-related options.

The screenshot displays a mobile application interface for language selection and translation. At the top, a search bar labeled 'भाषाएँ' (Languages) is visible. Below it, a list of languages is shown, including 'हिंदी, कोरियाई' (Hindi, Korean) and others. A floating window titled 'भाषाएँ जोड़ें' (Add Languages) is overlaid on the screen, showing a list of languages to be added. A notification banner at the bottom of the floating window reads: 'हिंदी, अवधी, छत्तीसगढ़ी और 12 अन्य भाषाओं में सामग्री उपलब्ध नहीं है। जिन भाषाओं को आप जानते हैं उनमें योगदान करने पर विचार करें।' (Content is not available in Hindi, Avधी, Chhattisgarhi and 12 other languages. Consider contributing to the languages you know.)

Below the notification, there are several options for translation and language management:

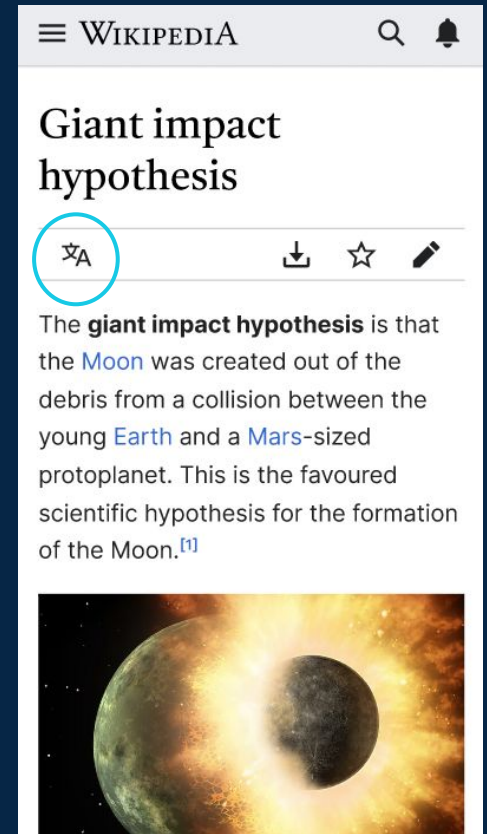
- भाषा लिंक संपादित** (Edit Language Link): A button with a pencil icon, indicating that the language link can be edited.
- इस पृष्ठ का अनुवाद** (Translate this page): A button with a plus sign, indicating that the page can be translated.
- एक स्वचालित अनुवाद** (One automatic translation): A button with a document icon, indicating that a single automatic translation is available.
- स्वचालित अनुवाद की समीक्षा करें** (Review automatic translation): A button with a checkmark icon, indicating that the automatic translation can be reviewed.

At the bottom of the floating window, there is a section titled 'विशाल प्रभाव परिकल्पना' (Vishal Prabhav Parikल्पna) with a sub-heading 'अंग्रेजी में खोलें' (Open in English). This section contains text about the 'Vishal Prabhav Parikल्पna' project, which is a machine translation of the content from English to Hindi. The text states: 'विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटोप्लैनेट के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>' (Vishal Prabhav Parikल्पna is that the Moon was formed from the debris of the collision of two protoplanets of the size of young Earth and Mars. This is the preferred scientific hypothesis for the formation of the Moon.<sup>[1]</sup>)

Below the text, there is an image of the Earth and the Moon in space.

## 😊 RITE 2: Finding # 1

Most participants correctly identify the language selector as the way to translate the English article to a different language.

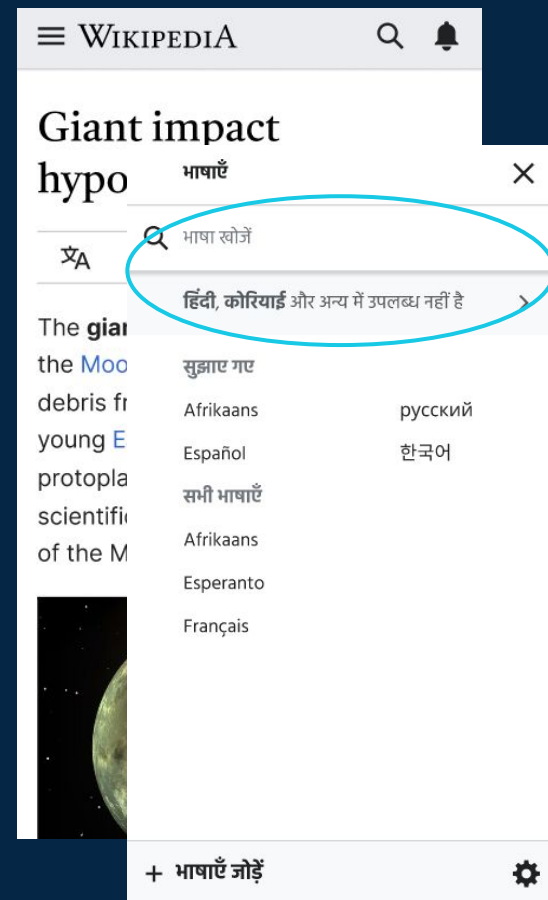


## RITE 2: Finding # 2

As in RITE 1, the screen that appears on clicking the language selector icon continues to be unexpected.

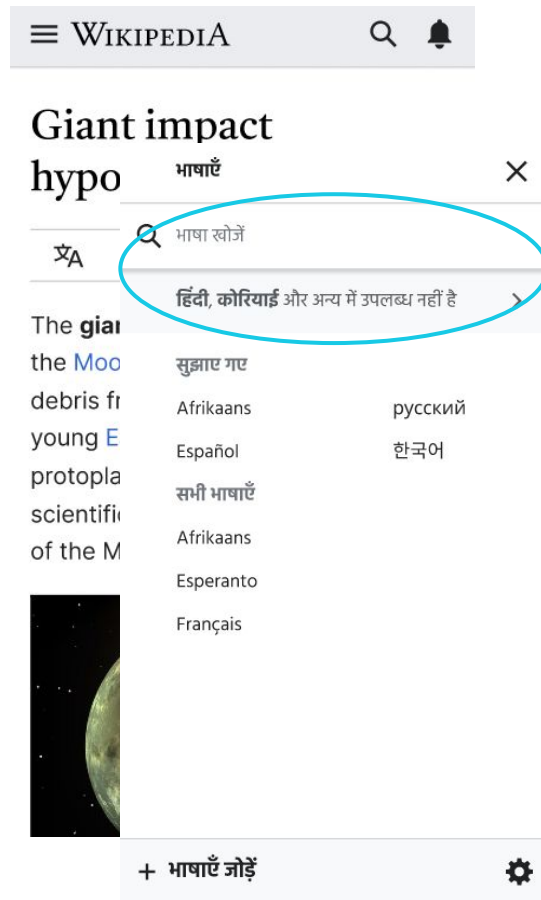
- Despite the change in wording, seeing a search option + a message that the content is not available in the target language is unexpected and confusing.

*A multilingual reader articulated that she would resort to 'search' as none of the option available on this screen appear to be a way to switch languages.*



After some prompting, editors guess that the 'Not Available in..' option could link to manual editing / translation options.

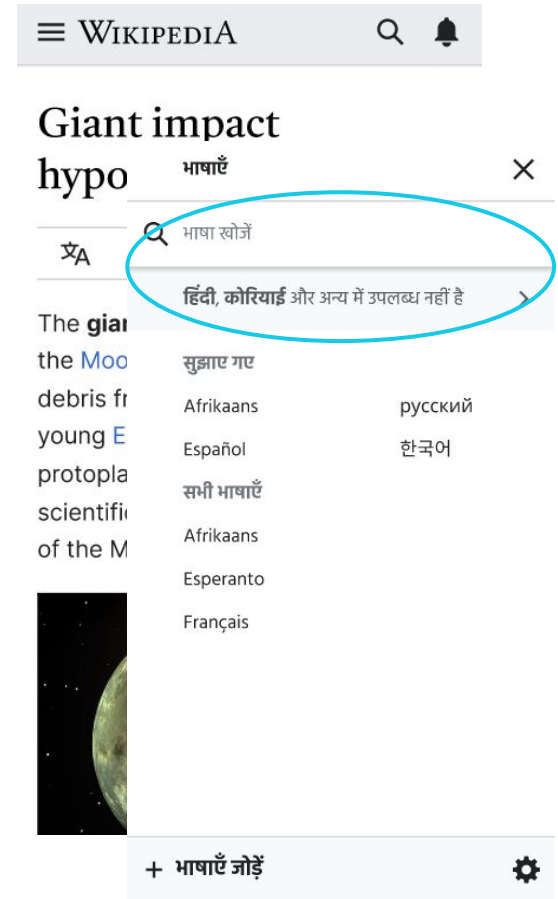
- P13-Editor - Guesses, that 'Not available in..' could be an option to create a manual translation, but is unsure.
- P20-Editor - Is ready to leave Wikipedia and use Google Translate. However, on being prompted by the moderator, guesses that 'Not available in..' could link to a manual translation option.



The 'Not Available In...' option is cryptic to readers, whose mental model is restricted to machine translation / excludes manual translation.

Individual readers expect:

- Clicking on 'Not available in..' will lead to a reason / justification about why a MT of the article is unavailable in some languages.
- To see the article in English again, as it is indicated that it is not available in the target language.





*“I think what they are trying to say is that the translation is not available in Hindi.*

***This is not what I expected, actually. It’s disappointing.***

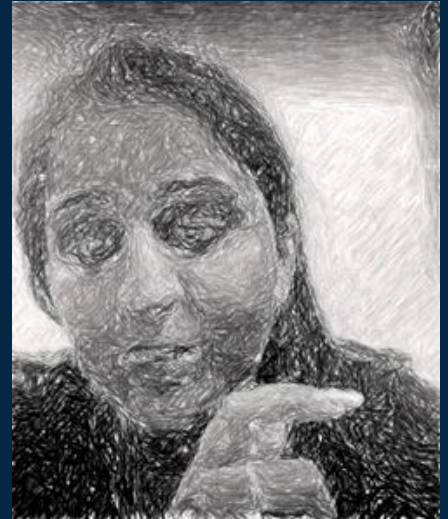
*I thought that maybe when I click on that text, I would get an option to translate it into Hindi.*

*Even if I click on Hindi, then it's clearly telling me that the Hindi automatic translation is not available.*

*I don't understand why automatic translation cannot be available because that's almost available for every text these days. Because it's obviously done by a computer.*

*I think that they would give some kind of a justification for why it is not available or something of the sort. That's what I think.”*

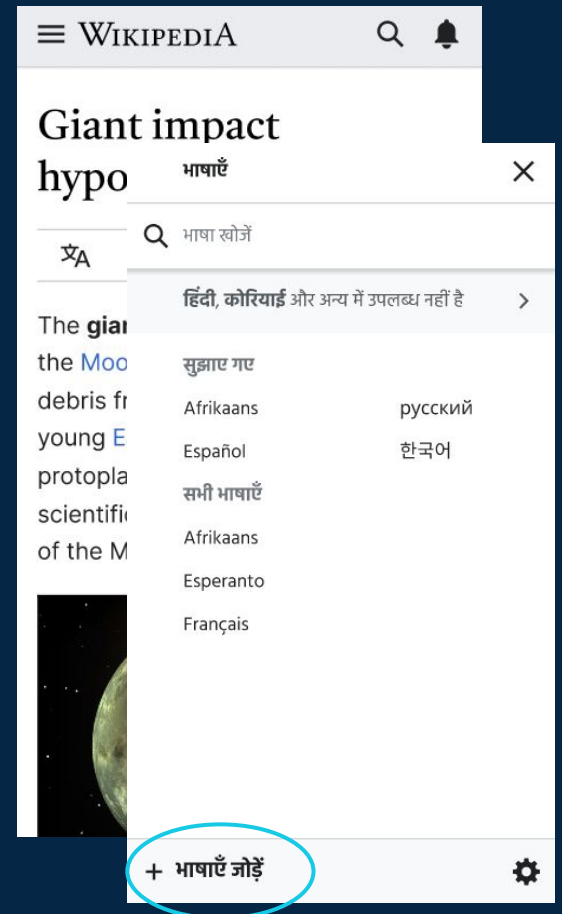
*(P24 - Multilingual Reader)*



- The 'Add Languages' option cues that that the target language needs to be added (to the available list) before a MT of the article can be viewed.

This is not in line with expectations / Appears to be an unnecessary additional step to see the translated content.

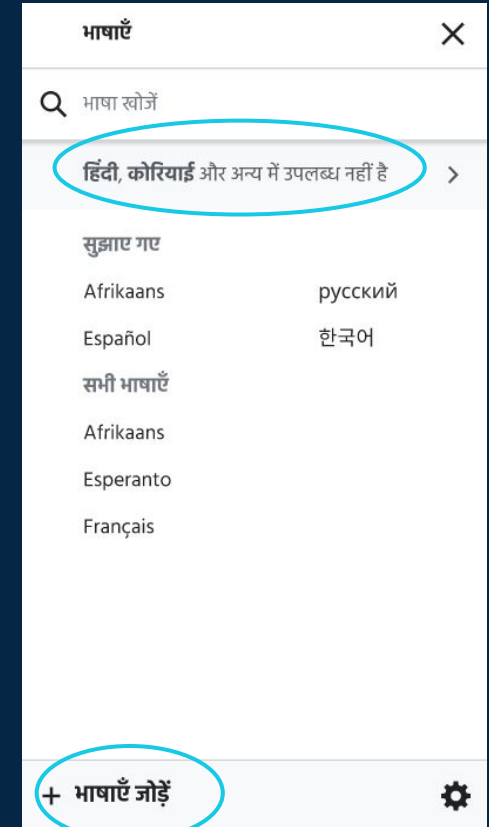
- A participant was unable to view this option at all, as it was hidden below the scroll.



## RITE 2: Finding # 3

In order to proceed with the task:

- Editors opt to click on the 'Not Available in..' option -  
On the assumption that this might link to editing or translation options, since the content is currently unavailable in the target language.
- Readers opt to click on the 'Add Languages' option,  
as the other option indicates translation is unavailable.
  - On the assumption that the target language would need to be added to view a machine translation.

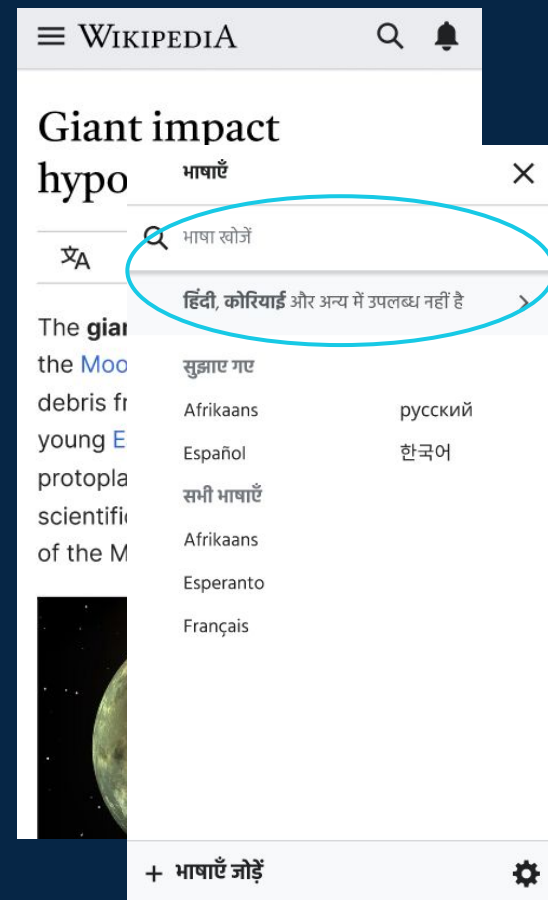




## RITE 2: Recommendation

Rather than the 'Missing in..' / 'Add Languages' options, participants expect to see:

- Languages the article is available in (or)
- Options to choose the language they want to translate the English article to (or)
- An automatic translation of the article in the target language.

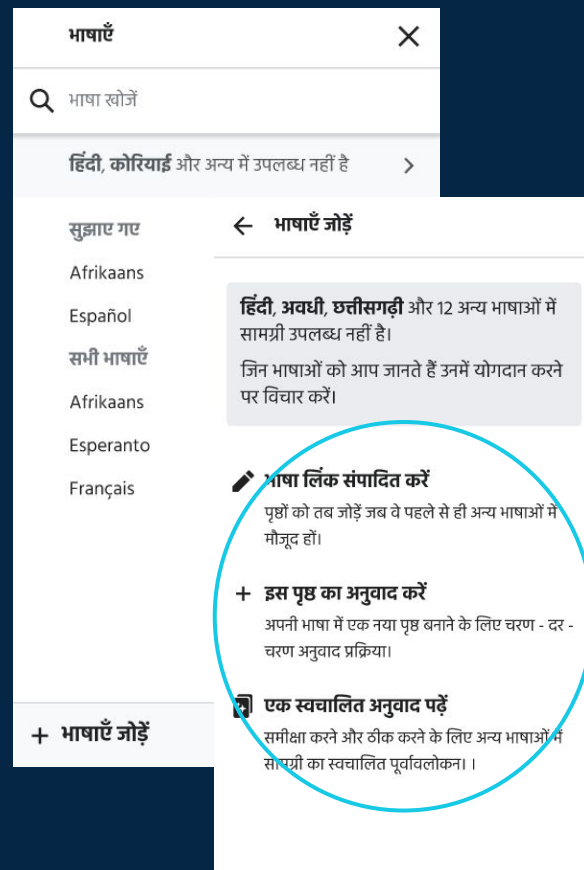


## RITE 2: Finding # 4

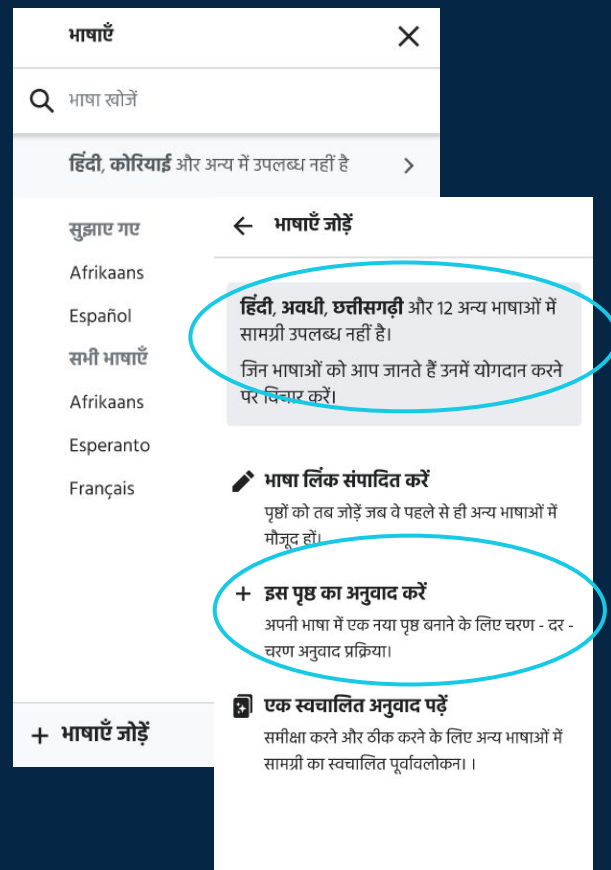
The single screen design (from both entry points) is less cryptic than the previous screen.

However, individual readers find this screen unexpected.

- Some readers are surprised, as they merely expect an additional step or an option to create a MT. (vs. multiple options)



- Seeing the ‘Not Available in...’ message again confused P18-Monolingual Reader.
- Some readers are confused / misinterpret the ‘translate’ option.  
P15-MoR - Is unsure what the ‘Translate’ option is.  
P22-MLR - Incorrectly interprets ‘Translate’ as ‘automatically translate content by paragraphs’ (vs. automatically translate the whole page)



## RITE 2: Finding # 5

All 6 participants (2 editors + 4 readers) who were shown this concept said they would be most likely to use the MT option, rather than manually translate content.

- P13-Editor - *“Read first, and translate if I have time.”*
- P18-Monolingual Reader - *“Prefer to use MT - It is easier.. very few people would type and create something new.”*
- P20-Editor - *“Prefer MT as its easier and quick.”*
- P22-Multilingual Reader - *“No time to do this... On the Internet one wants to get info quickly.”*

भाषाएँ

भाषा खोजें

हिंदी, कोरियाई और अन्य में उपलब्ध नहीं है

सुझाए गए

Afrikaans

Español

सभी भाषाएँ

Afrikaans

Esperanto

Français

← भाषाएँ जोड़ें

हिंदी, अवधी, छत्तीसगढ़ी और 12 अन्य भाषाओं में सामग्री उपलब्ध नहीं है।  
जिन भाषाओं को आप जानते हैं उनमें योगदान करने पर विचार करें।

✎ भाषा लिंक संपादित करें  
पृष्ठों को तब जोड़ें जब वे पहले से ही अन्य भाषाओं में मौजूद हों।

+ इस पृष्ठ का अनुवाद करें  
अपनी भाषा में एक नया पृष्ठ बनाने के लिए चरण - दर - चरण अनुवाद प्रक्रिया।

📄 एक स्वचालित अनुवाद पढ़ें  
समीक्षा करने और ठीक करने के लिए अन्य भाषाओं में सामग्री का स्वचालित पूर्वविलोकन।

+ भाषाएँ जोड़ें

## RITE 2: Finding # 6

Editor's note that if an MT option were provided, manual translation would become a secondary choice, and used only if:

- Time permits
- The machine translation is not relevant or informative enough

भाषाएँ

भाषा खोजें

हिंदी, कोरियाई और अन्य में उपलब्ध नहीं है

सुझाए गए

- Afrikaans
- Español
- सभी भाषाएँ
- Afrikaans
- Esperanto
- Français

← भाषाएँ जोड़ें

हिंदी, अवधी, छत्तीसगढ़ी और 12 अन्य भाषाओं में सामग्री उपलब्ध नहीं है।  
जिन भाषाओं को आप जानते हैं उनमें योगदान करने पर विचार करें।

✎ भाषा लिंक संपादित करें  
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अपनी भाषा में एक नया पृष्ठ बनाने के लिए चरण - दर - चरण अनुवाद प्रक्रिया।

📄 एक स्वचालित अनुवाद पढ़ें  
समीक्षा करने और ठीक करने के लिए अन्य भाषाओं में सामग्री का स्वचालित पूर्वविलोकन।

+ भाषाएँ जोड़ें



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## Giant impact hypothesis

क्या आप हिन्दी बोलते हैं

अपनी भाषा में लिखी गई सामग्री और अन्य भाषाओं से स्वचालित अनुवाद की जाँच करें।

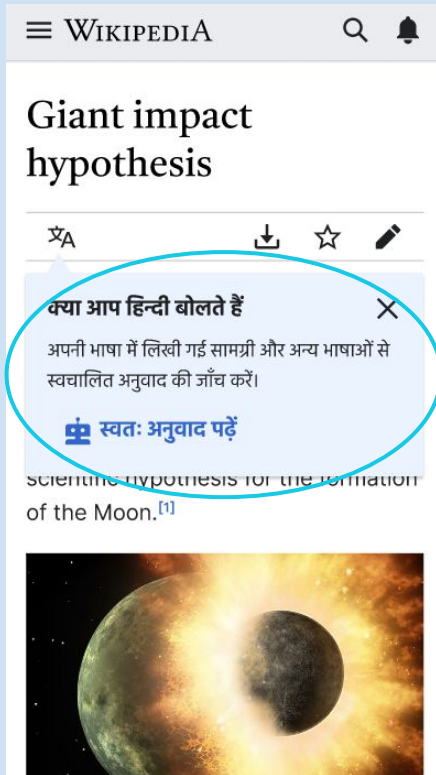
[स्वतः अनुवाद पढ़ें](#)

scientific hypothesis for the formation of the Moon.<sup>[1]</sup>



## Concept 3: Version 1

*Language Selector Popup*



## Concept Description

*A variation of Concept 2 - Rather than having to proactively click the language selector icon, the user is presented with a pop up prompt.*

*The remaining task flow is similar to Concept 2.*

## Study Scenario

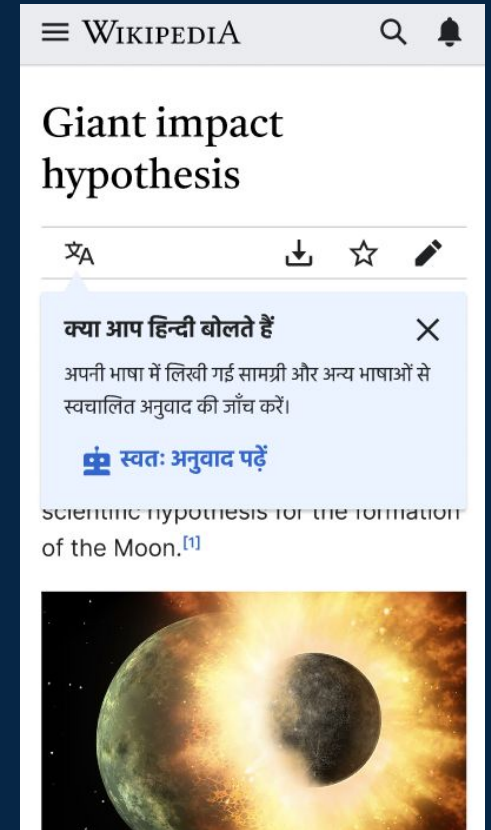
“Imagine that you want to know about how the moon was formed.

You check Wikipedia, and find an English article on this topic - ‘Giant Impact Hypothesis’.

However, your preferred language to read this is (target language). With this scenario in mind, I would like you to explore this concept.”

## 😊 RITE 1: Key Finding # 1

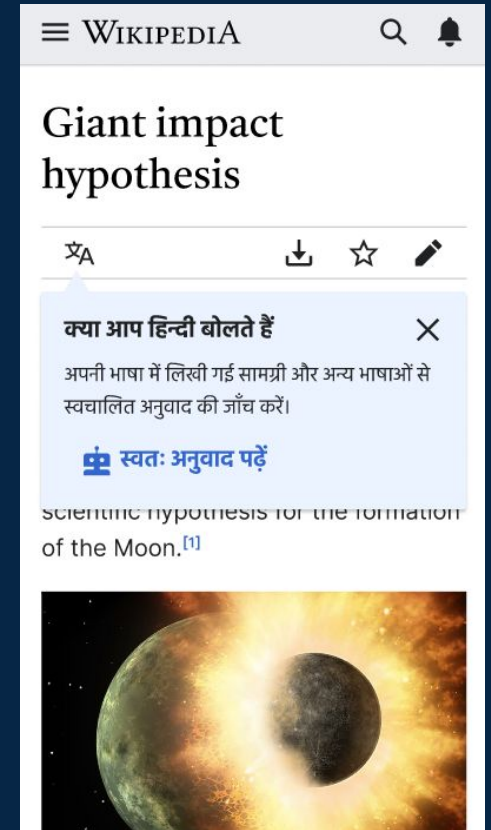
The language invite prompt is noticed immediately by most participants.



## RITE 1: Key Finding # 2

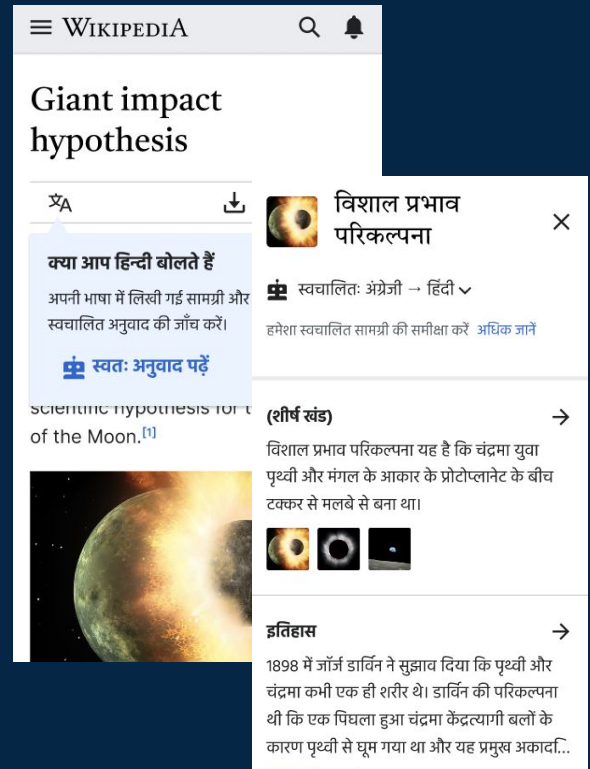
Individual participants highlight issues with the pop up format and wording.

- A reader was **suspicious** of the pop up format, because of the increasing rate of cyber crime in India. Moreover, the pop up format was **alarming** as it cued 'alert'.
- An editor suggested that the wording style on the popup currently cues **'survey'**.



## RITE 1: Key Finding # 3

Change in format between the original article and automatically translated output is not in line with expectations and confuses some participants.

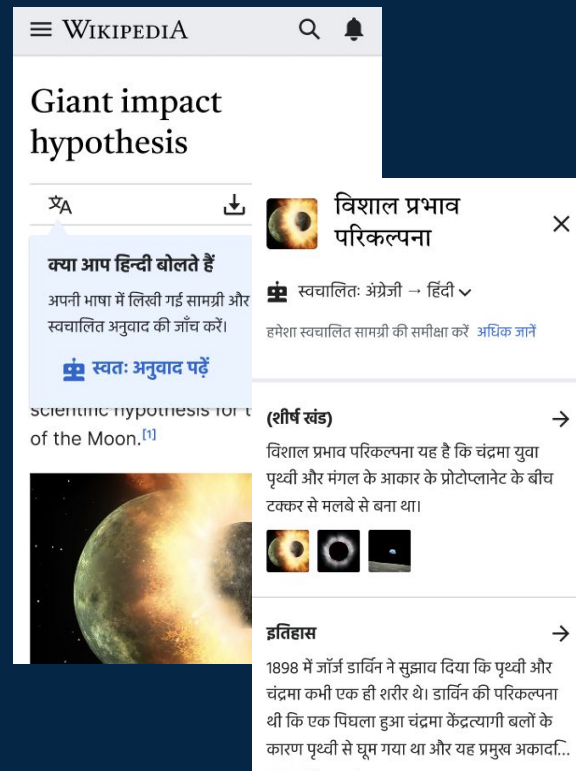


The screenshot shows the Wikipedia article for 'Giant impact hypothesis'. A Hindi translation overlay is visible, titled 'विशाल प्रभाव परिकल्पना'. The overlay includes a search icon, a download icon, and a language selection dropdown set to Hindi. The main article text is partially visible, including the title 'Giant impact hypothesis', a sub-header 'Scientific hypothesis for the Moon.', and a paragraph starting with 'विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।'. There are also three small images showing the impact process. A 'इतिहास' (History) section is also visible, starting with '1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकाद...'.

## RITE 1: Key Finding # 4

Editors are concerned that MT will not capture the essence of the original content the way a manual translation will.

Therefore, they want to be able to compare translated content with original content to gauge accuracy of translation.



The screenshot shows a mobile view of the Wikipedia article "Giant impact hypothesis" in Hindi. A translation overlay is visible, featuring a search icon, a download icon, and a text box that reads: "क्या आप हिन्दी बोलते हैं अपनी भाषा में लिखी गई सामग्री और स्वचालित अनुवाद की जाँच करें। स्वतः अनुवाद पढ़ें". Below this, there is a section for "विशाल प्रभाव परिकल्पना" (Giant impact hypothesis) with a sub-section for "स्वचालित: अंग्रेजी → हिंदी" (Automatic: English → Hindi). The article text is partially visible, including the sentence: "विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।". There are also small images of the Moon and the impact event. At the bottom, there is a section for "इतिहास" (History) with the text: "1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादमि..".

The screenshot shows a mobile browser interface for a Wikipedia article. At the top, the Wikipedia logo and navigation icons (search and notifications) are visible. The article title is "Giant impact hypothesis". Below the title, there are icons for language selection, download, star, and edit. A language selector popup is displayed, showing the current language as Hindi and offering an option to view the article in English. The main text of the article is visible below the popup.

WIKIPEDIA

## Giant impact hypothesis

हिंदी में पढ़ें

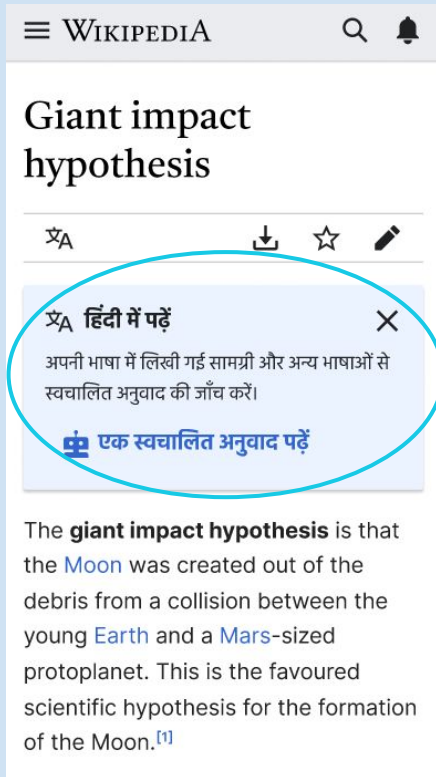
अपनी भाषा में लिखी गई सामग्री और अन्य भाषाओं से स्वचालित अनुवाद की जाँच करें।

[एक स्वचालित अनुवाद पढ़ें](#)

The **giant impact hypothesis** is that the **Moon** was created out of the debris from a collision between the young **Earth** and a **Mars**-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>

## Concept 3: Version 2

### *Language Selector Popup*



## Concept Description

*A variation of Concept 2 - Rather than having to proactively click the language selector icon, the user is presented with a pop up prompt.*

*The remaining task flow is similar to Concept 2.*

## Study Scenario

“Imagine that you want to know about how the moon was formed.

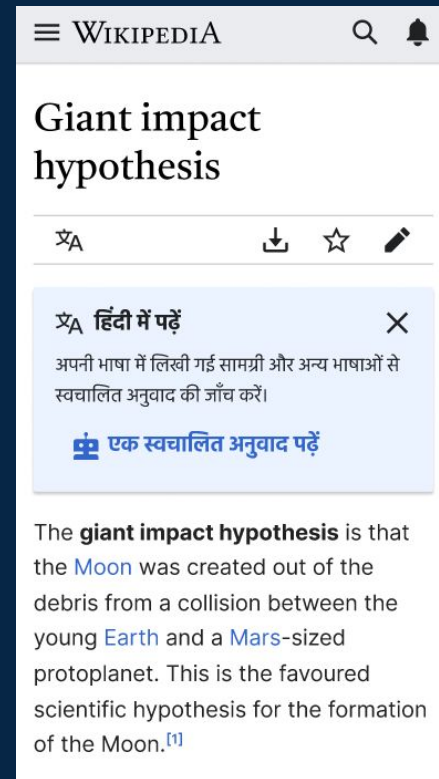
You check Wikipedia, and find an English article on this topic - ‘Giant Impact Hypothesis’.

However, your preferred language to read this is (target language). With this scenario in mind, I would like you to explore this concept.”



## *Design iteration based on RITE 1 feedback:*

- The notice is now integrated more seamlessly into the page, reducing the prominence of a popup format that raised certain concerns.*
- The wording style has been changed so that the heading is no longer a question.*
- The format of the translated content is consistent with the original article format.*

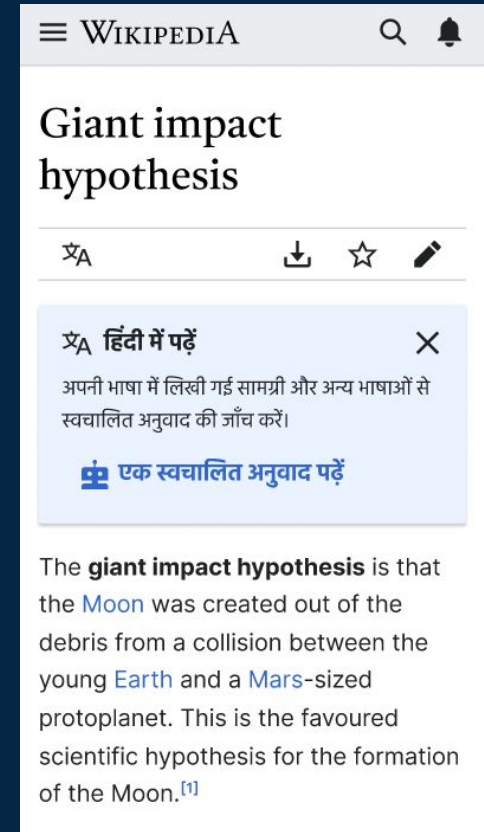


## 😊 RITE 2: Finding # 1

The language invite prompt is noticed immediately by most participants.

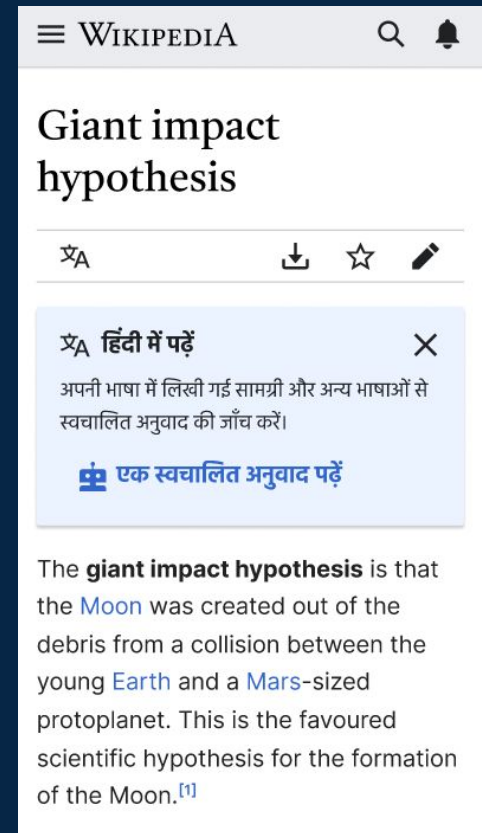
Most participants appreciate the format as well as the wording. The function of this feature is clear.

- *P14-Editor - Notes that ‘Swachalit Anuwad’ (Read Automatic Translation) and ‘Hindi me padhe’ (Read in Hindi) are good cues.*
- *P14-Editor - Notes that this format (pop up / top of the page) is easier to discover than the card on Concept 1 which is hidden below the scroll.*



The screenshot shows the Wikipedia mobile interface for the article "Giant impact hypothesis". At the top, there is a navigation bar with the Wikipedia logo, a search icon, and a notification bell. Below the title, there are icons for text-to-speech, download, star, and edit. A light blue pop-up card is displayed, titled "हिंदी में पढ़ें" (Read in Hindi), with a close button (X) in the top right corner. The card contains the text: "अपनी भाषा में लिखी गई सामग्री और अन्य भाषाओं से स्वचालित अनुवाद की जाँच करें।" (Check the content written in your language and other languages for automatic translation). Below this text is a button with a Hindi icon and the text "एक स्वचालित अनुवाद पढ़ें" (Read one automatic translation). Below the card, the main text of the article is visible, starting with "The **giant impact hypothesis** is that the **Moon** was created out of the debris from a collision between the young **Earth** and a **Mars**-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>

- P21-Multilingual Reader - Recognizes the language icon as a possible alternate entry point. Appreciates the pop up with a 'x' option as it is easily visible + can be closed if not needed.
- P23-Monolingual Reader - Likes the light blue color of the popup as it highlights the message. Likes seeing a popup, as it serves as a notification.



For P16-MLR, a pop up format cues that it is an advertisement.  
He is inclined to close the popup without reading.

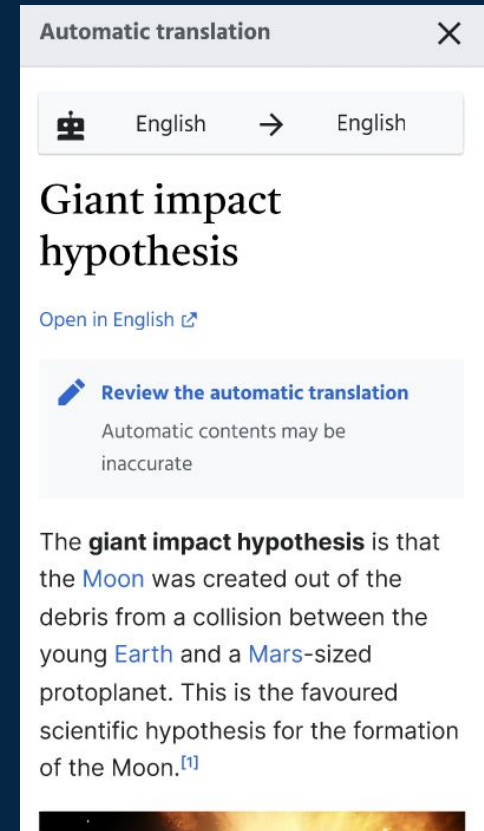


*(P16 - Multilingual Reader)*

## RITE 2: Finding # 2

All participants note 'Open in English' as a way to view the original English article.

(The 'x' option is not referenced by anyone.)



The screenshot shows a browser window titled "Automatic translation" with a close button (X) in the top right corner. Below the title bar, there is a language selection bar showing "English" on the left and "English" on the right, with a right-pointing arrow between them. The main content of the page is the article title "Giant impact hypothesis" in a large, bold, black serif font. Below the title is a link "Open in English" with an external link icon. A light blue box contains a pencil icon and the text "Review the automatic translation" in bold, followed by "Automatic contents may be inaccurate" in a smaller font. Below this box is a paragraph of text: "The **giant impact hypothesis** is that the **Moon** was created out of the debris from a collision between the young **Earth** and a **Mars**-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>" At the bottom of the page, there is a decorative horizontal bar with a fiery, orange and yellow gradient.

## RITE 2: Finding # 3

R

P21-Multilingual Reader notes that the origin language in the floating language pair must be written in English, rather than in the Devanagiri script.

स्वचालित अनुवाद

अंग्रेज़ी → हिन्दी

### विशाल प्रभाव परिकल्पना






अंग्रेज़ी में खोलें

**स्वचालित अनुवाद की समीक्षा करें**  
स्वचालित सामग्री ग़लत हो सकती है

**विशाल प्रभाव की परिकल्पना** यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटोप्लैनेट के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>



## Concepts 2, 3

<b>Discoverability</b>		Participants immediately notice the language icon in Concept 3, and the language pop up in Concept 3.
<b>Clarity (Headings, Labels)</b>		<ul style="list-style-type: none"><li>• The labels 'Not Available in...' and 'Add Languages' do not effectively cue that they link to translation options.</li><li>• Some readers are confused by / misinterpret the 'Translate' label on the single screen design.</li></ul>
<b>Consistency</b>		Participants do not face any issues due to inconsistency of labeling or design.
<b>Self Evidence</b>		<ul style="list-style-type: none"><li>• The 'Missing in..' and 'Add Languages' options that appear on clicking the language selector icon are unexpected and not self-evident.</li><li>• The single screen design is less cryptic. However, individual readers find this screen unexpected.</li><li>• The function of the 'Translate' option on the single screen design is not evident to some readers as their conceptual model is restricted to automatic translation.</li></ul>
<b>Usefulness/Value</b>		The ability to translate content being viewed to a preferred language is a function that users are familiar with, and have now come to expect as a 'standard' feature.



## Concept 4: Version 1

*Search*





## Concept Description

*When searching for a topic on Wikipedia, search results include options to view related results that are not available in the users preferred language, as an automatic translation.*

## Study Scenario

“Imagine that you want to read about ‘Giant Impact Hypothesis’ again.

I would like you to use this demo to search for this on Wikipedia.”

## 😊 RITE 1: Key Finding # 1

All participants proactively click on 'search' when asked to find a specific article on Wikipedia.



## RITE 1: Key Finding # 2

Most participants don't register the difference between the two types of content presented on the screen. (MT vs. Original language)

- Those who notice the 'MT' - indication for 'Giant Impact Hypothesis', don't identify or don't articulate that 'Giant Panda' as original content.



## RITE 1: Key Finding # 3

Editors want to compare the translation with the original content:

- To see if the MT captures the essence of the original content.
- An individual editor wanted to check the original English article to ensure that the content was from a reliable source.

विशाल प्रभाव परिकल्पना

पृष्ठों के भीतर खोजें

**विशाल पांडा**  
भालू की प्रजाति

**विशाल प्रभाव परिकल्पना**

स्वचालित अनुवाद देखें  
अंग्रेजी से जापानी और 3 और

स्वचालित: अंग्रेजी → हिंदी

हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें

**विशाल प्रभाव परिकल्पना**  
चंद्रमा के गठन के बारे में

Q W E R T Y (शीर्ष खंड) →  
A S D F G H  
↑ Z X C V B  
123 space

विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।

**इतिहास** →  
1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादमि...

## RITE 1: Key Finding # 4

Individual participants provided feedback about comprehension and ease of reading MT content.

- Formal Hindi terms (vs. colloquial terms) are hard to understand.
- Technical terms in particular are difficult to comprehend when translated into Hindi / regional dialects.



**विशाल प्रभाव**  
परिकल्पना ×

🇮🇳 स्वचालित: अंग्रेजी → हिंदी ▾

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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**(शीर्ष खंड)** →

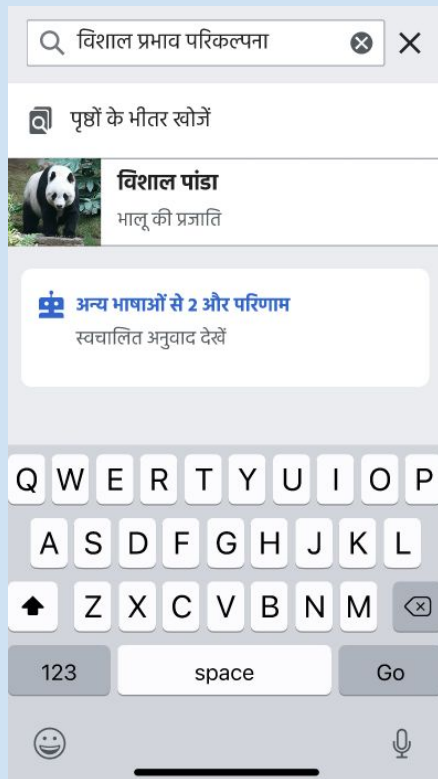
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।



---

**इतिहास** →

1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादमि..



## Concept 4: Version 2

*Search*



## Concept Description

*When searching for a topic on Wikipedia, search results include options to view related results that are not available in the users preferred language, as an automatic translation.*

## Study Scenario

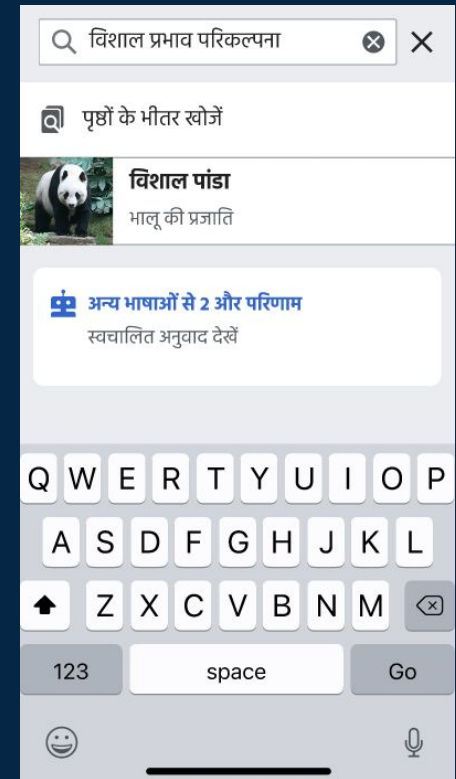
“Imagine that you want to read about ‘Giant Impact Hypothesis’ again.

I would like you to use this demo to search for this on Wikipedia.”

## *Design iteration based on RITE 1 feedback:*

- *Machine translated results are not shown directly as part of the search result.*

*An indicator of additional results requires users action -  
As a way to make them aware that they are accessing a  
different type of results.*





## 😊 RITE 2: Finding # 1

All participants proactively click on 'search' when asked to find a specific article on Wikipedia.



विकिपीडिया

विकिपीडिया में आपका स्वागत है।

प्रमुख लेख



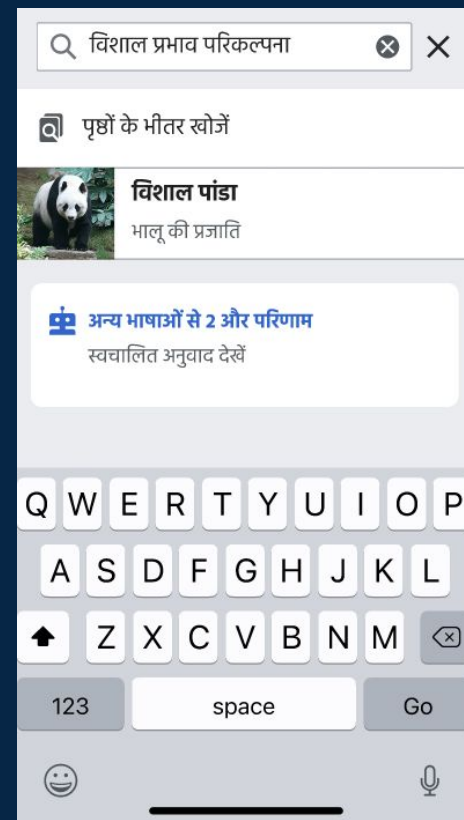
**सुशी** आम तौर पर कुछ चीनी और नमक के साथ तैयार सिरके वाले चावल का एक **जापानी व्यंजन** है, जिसमें विभिन्न प्रकार की सामग्री जैसे **समुद्री भोजन** - अक्सर कच्चा - और सब्जियां होती हैं।

## RITE 2: Finding # 2

The collapsed MT result is not immediately evident to most participants.

*Out of the 8 participants who attempt this task:*

- *Only 1 reader and 1 editor notice and click on the MT option almost immediately.*
- *1 reader does not discover the collapsed result at all.*
- *4 readers and 1 editor are surprised / confused with the search results, and would possibly not have discovered the collapsed content outside study conditions.*



The collapsed MT result is not evident to readers before a lot of encouragement and prompting from the moderator.

Outside study conditions, P's 15-MoR, 19-MoR, 23-MoR and 24-MLR would have abandoned the task or attempted to change the results and retry searching.

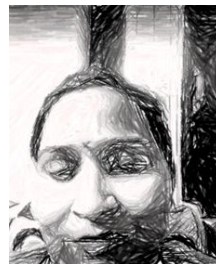
The collapsed result is eventually discovered, as the blue link saying '2 more results...' catches attention / there is no other option.



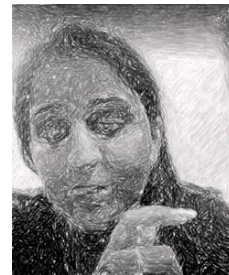
*(P15 - Monolingual Reader)*



*(P19 - Monolingual Reader)*



*(P23 - Monolingual Reader)*



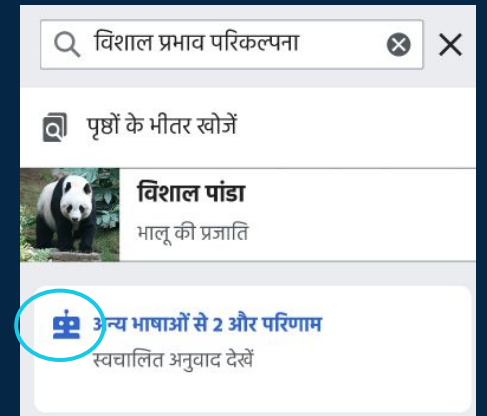
*(P24 - Multilingual Reader)*



## RITE 2: Recommendation

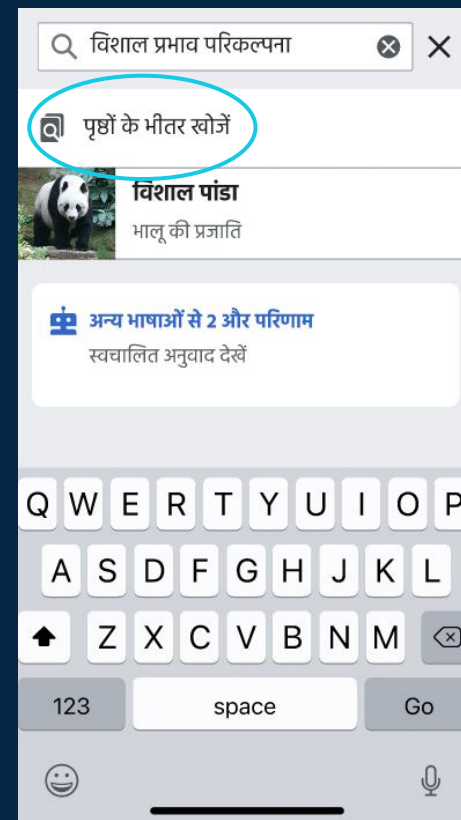
The language selector icon is better recognized and associated with translation than the icon currently used on the collapsed MT result.

Consider using the language selector icon consistently, to indicate 'translation'.



## RITE 2: Finding # 3

P14-Editor notes that the 'Search within pages' instruction is cryptic.



## 😊 RITE 2: Finding # 4

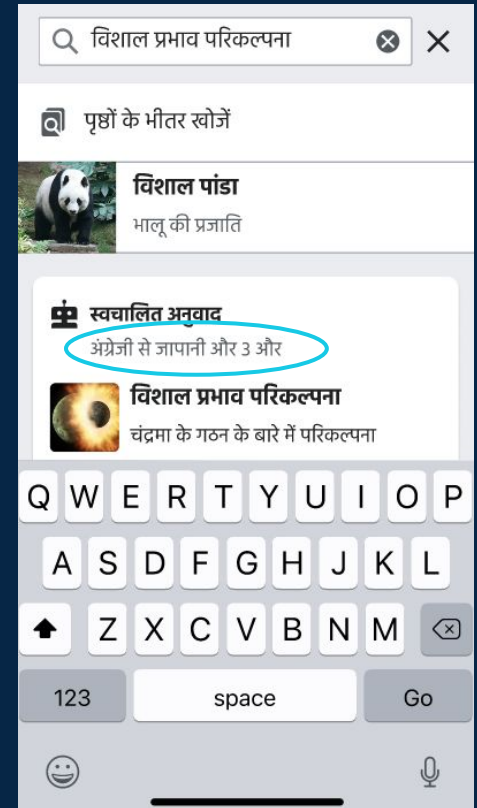
Once viewed, most participants understand the difference between the original article and the MT content in the search results.

*A few participants realize that the 1st result is original content, only after the moderator highlights that the collapsed result is MT.*



## RITE 2: Finding # 5

Two readers misinterpret the translation indication to mean that the Hindi article can be translated from Hindi to English, Japanese + 3 other languages.



## RITE 2: Finding # 6

All 8 participants who attempt this task feel it is necessary and useful to include automatically translated content in Wikipedia search results.

- *'Everything in one place'*
- *'No need to copy paste'*
- *'Common these days'*
- *'If original content is not available, better to see a translation, rather than no results'*
- *'Machine translation helps get information that is needed'*





R

P20-Editor recommends that human content (more trustworthy, less grammar errors) must be placed before machine translation results  
/ Machine translation results offered only when human created content is not available.



*(P20-Editor)*

## RITE 2: Finding # 7

R

Participant expectations from MT include:

- Accuracy
- Inclusion of 'blue links' and 'references' (Like in original Wikipedia content)
- No grammar or spelling errors
- Easy access to original content and images
- An option to edit / change the auto translated text if needed
- Easy to read language that is not formal / 'pure' / archaic

स्वचालित अनुवाद

अंग्रेज़ी → हिन्दी

### विशाल प्रभाव परिकल्पना

[अंग्रेज़ी में खोलें](#)

 **स्वचालित अनुवाद की समीक्षा करें**  
स्वचालित सामग्री ग़लत हो सकती है

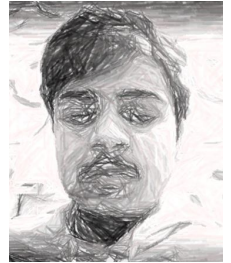
**विशाल प्रभाव की परिकल्पना** यह है कि [चंद्रमा](#) का निर्माण युवा पृथ्वी और [मंगल](#) के आकार के प्रोटोप्लैनेट के बीच टकराव के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>



- P14-ED, P15-MoR and P17-MLR highlight the importance of indicating and differentiating between machine translated content and original content, in order to:
  - Alert readers that the content may not be completely accurate or may be hard to read...
  - Allow readers to consciously choose the type of content they want to use...
- P18-MoR however, felt that it was not necessary to differentiate between MT and original content, as there was no perceivable difference in quality.



*(P14 - Editor)*



*(P15 - Monolingual Reader)*



*(P17 - Multilingual Reader)*






## Why do participants opt to search, or not, directly on Wikipedia?

At the end of task 4, a short discussion was conducted to understand participants search practices and the reasons behind them.

Most participants currently search on Google, rather than directly on Wikipedia:


- *Google is a wider search tool that can be used to search for Wikipedia content, as well as content that is not available on Wikipedia.*
- *Searching on Google has become a habit - Readers associate search with Google, and reading with Wikipedia.*

## Concept 4

<b>Discoverability</b>		Although the search option is immediately discovered, the collapsed MT result is not immediately discovered by most participants.
<b>Clarity (Headings, Labels)</b>		<ul style="list-style-type: none"><li>• The 'Search within pages' instruction is found to be cryptic by an editor.</li><li>• Two readers misinterpret the 'From English, Japanese and 3 more' subheading to mean that the Hindi article can be translated from Hindi to English, Japanese + 3 other languages</li></ul>
<b>Consistency</b>		Participants do not face any issues due to inconsistency of labeling or design.
<b>Self Evidence</b>		Once discovered, most participants understand the difference between the original article and the MT content in the search results.
<b>Usefulness/Value</b>		All participants who attempt this task feel it is necessary and useful to include automatically translated content in Wikipedia search results.

**स्वचालित अनुवाद**

विषय की खोज करें

अंग्रेज़ी →  चंद्रमा

अंग्रेज़ी में 60 लाख विषयों का अनुवाद किया जा सकता है।


**स्वचालित: अंग्रेज़ी → अवधी**

हमेशा स्वचालित रूप से सामग्री का जांच करा जाय

[अउर जानकारी](#)

**याहच्छि**

अवधी मा लिखा



अवधी मा लिखा

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहे। हम आमतौर पर इसे रात का आकाश अउर दिन का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या प्राकृतिक उपग्रह भी होत हैं।

[लेख अउर लेख](#)

# Concept 5: Version 1

*Machine Translation Home*

**स्वचालित अनुवाद**

विषय की खोज करें

अंग्रेज़ी → हिन्दी

**चंद्रमा**

अंग्रेज़ी में 60 लाख विषयों का हिन्दी में स्वतः अनुवाद किया जा सकता है।

**याहच्छिक विषय**

**स्वचालित: अंग्रेज़ी → अवधी**

हमेशा स्वचालित रूप से सामग्री का जांच करा जाय  
[अउर जानकारी](#)

अवधी मा लिखा

**अवधी मा लिखा**

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहै। हम आमतौर पर इसे रात का आकाश अउर दिन का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या प्राकृतिक उपग्रह भी होत हैं।

[लेख अउर लेख](#)

## Concept Description

*A main entry point for users to access machine translated versions of the article of their choice. From this screen, it is also possible to find topics in both the source language (human written) and the target language. (automatically translated)*

## Study Scenario

In the last scenario for today, imagine that you have heard about a Wikipedia page where you can search and find content in (target language).

Results will include content that is not originally written in (target language), but which has been automatically translated.

## RITE 1: Key Finding # 1

The 'Written in ...' label confuses most participants.

Several participants misinterpret this to mean the content originally written in English is now shown in Hindi / Awadhi. (A translation)



The screenshot shows a Wikipedia article snippet in Hindi. At the top, there is a profile picture of a moon and the name 'चंद्रमा' (Chandrama). Below it, there is a language indicator 'स्वचालित: अंग्रेजी → अवधी' (Automatically translated: English → Awadhi). The main text of the snippet is in Hindi, discussing the moon and its appearance. A red circle highlights the text 'अवधी मा लिखा' (Written in Awadhi), which is a label indicating that the content is a translation from English. Below the main text, there is a link 'लेख अउर लेख' (Read more articles).



## RITE 1: Key Finding # 2

Having the original content sandwiched between the MT heading and MT content reinforces the perception that all content on the page is translated content.

चंद्रमा

स्वचालित: अंग्रेजी → अवधी

हमेशा स्वचालित रूप से सामग्री का जांच करा जाय  
अउर जानकारी

अवधी मा लिखा

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहै।  
हम आमतौर पर इसे रात का आकाश अउर दिन  
का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या  
प्राकृतिक उपग्रह भी होत हैं।

[लेख अउर लेख](#)

स्वचालित रूप से अनुवादित

**चंद्रमा का उत्पत्ति**

विशाल प्रभाव परिकल्पना इ है कि चंद्रमा युवा पृथ्वी  
अउर मंगल ग्रह के आकार का प्रोटोप्लानेट के बीच  
टकराव से अवशेष से बना रहा। मा का अर्थ


चंद्रमा
×

🌐 स्वचालित: अंग्रेजी → हिंदी ✓

हमेशा स्वचालित सामग्री की समीक्षा करें [अधि...](#)

---

**चंद्रमा की उत्पत्ति**

विशाल प्रभाव परिकल्पना यह है कि चंद्रमा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट टक्कर से मलबे से बना था।




**अधिक खंड (हिंदी में पहले से उपलब्ध)** →

नाम और व्युत्पत्ति भी देखें।

---

**👤 हिंदी में लिखा गया**

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है, न कि स्वचालित अनुवाद।

---

**शारीरिक विशेषताएँ**

चंद्रमा का गुरुत्वाकर्षण पृथ्वी से कम है (इसकी मात्रा का केवल 1/6 भाग)।




**👤 हिंदी में लिखा गया**

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)

## Concept 5: Version 2

*Machine Translation Home*

**स्वचालित अनुवाद**

विषय की खोज करें

अंग्रेज़ी → हिन्दी

**अधिक खंड (हिंदी में पहले से उपलब्ध)** →  
नाम और व्युत्पत्ति भी देखें।

अंग्रेज़ी में 60 लाख विषयों का हिंदी में अनुवाद किया जा सकता है।

**याहच्छिक विषय**

**हिंदी में लिखा गया**  
हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है, न कि स्वचालित अनुवाद।

 **हिंदी में लिखा गया**  
चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।  
[पढ़ें लेख](#)

## Concept Description

*A main entry point for users to access machine translated versions of the article of their choice. From this screen, it is also possible to find topics in both the source language (human written) and the target language. (automatically translated)*

## Study Scenario

In the last scenario for today, imagine that you have heard about a Wikipedia page where you can search and find content in (target language).

Results will include content that is not originally written in (target language), but which has been automatically translated.

## Design iteration based on RITE 1 feedback:

- *To minimize confusion, the human-written contents are placed at the end, avoiding being sandwiched between machine translations.*
- *Additional description is provided to make the differentiation more explicit.*

 चंद्रमा ×

स्वचालित: अंग्रेजी → हिंदी ▾

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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**चंद्रमा की उत्पत्ति** →

विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।।



**अधिक खंड (हिंदी में पहले से उपलब्ध)** →

नाम और व्युत्पत्ति भी देखें।

---

 हिंदी में लिखा गया

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है , न कि स्वचालित अनुवाद।

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 हिंदी में लिखा गया

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)

## 😊 RITE 2: Finding # 1

Out of the 11 participants who attempted this task, 9 readers were able to differentiate between MT and original content.



### चंद्रमा

×

🇮🇳 स्वचालित: अंग्रेजी → हिंदी ▾  
हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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#### चंद्रमा की उत्पत्ति

→

विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।।



#### अधिक खंड (हिंदी में पहले से उपलब्ध)

→

नाम और व्युत्पत्ति भी देखें।

---

#### शारीरिक विशेषताएँ

चंद्रमा का गुरुत्वाकर्षण पृथ्वी से इसकी मात्रा का केवल 1/6 भाग।



#### हिंदी में लिखा गया

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है , न कि स्वचालित अनुवाद।



#### हिंदी में लिखा गया


चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)

P16-MLR (Outlier) - Does not differentiate results as MT vs. original content. Rather, he sees the initial results as short write ups and the last article as a place where he can get deeper knowledge.  
(The link 'Read Article' cues this)

👤 छत्तीसगढ़ी म लिखे

हिन्दी विकिपीडिया संपादकों हर ए विषय बर एक पृष्ठ बनाइस हवय। ए मनखे द्वारा समीक्षा की गई सामग्री हवय, स्वचालित अनुवाद नी। करे



👤 छत्तीसगढ़ी म लिखे

चंद्रमा पृथ्वी के एकमात्र प्राकृतिक उपग्रह हवय। हम आमतौर म एला रात के आकाश म अउ दिन के दौरान घलो देखथन। कुछु आने ग्रहों म चंद्रमा या प्राकृतिक उपग्रह घलो हवरयं।

[लेख पढ़व](#)



(P16 - Multilingual Reader)

P17-MLR (Outlier) - is able to identify MT content as it is appropriately indicated and understands that the last article is not machine-translated, as there is no such indication.

However, she mistakenly interprets the last article as 'viewpoints' submitted by readers.  
(This interpretation is based on her experience with Indian news sites.)



चंद्रमा



स्वचालित: अंग्रेजी → हिंदी

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

### चंद्रमा की उत्पत्ति



विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।



### अधिक खंड (हिंदी में पहले से उपलब्ध)

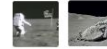


नाम और व्युत्पत्ति भी देखें।

हिंदी में लिखा गया

### शारीरिक विशेषताएँ

चंद्रमा का गुरुत्वाकर्षण पृथ्वी से इसकी मात्रा का केवल 1/6 भाग।



हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है, न कि स्वचालित अनुवाद।



हिंदी में लिखा गया

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते

[पढ़ें लेख](#)



(P17 - Multilingual Reader)

## 😊 RITE 2: Finding # 2

It is anticipated by editors as well as readers that human created content will have less grammatical errors, be more trustworthy and easier to read than MT content.

*However, no one points out striking errors or problems with the MinT translation.*

*Some even say there is no perceivable difference.*



**चंद्रमा**

स्वचालित: अंग्रेज़ी → हिंदी

हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें

### चंद्रमा की उत्पत्ति

विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।

**अधिक खंड (हिंदी में पहले से उपलब्ध)**

नाम और व्युत्पत्ति भी देखें।

हिंदी में लिखा गया

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है, न कि स्वचालित अनुवाद।

### शारीरिक विशेषताएँ

चंद्रमा का गुरुत्वाकर्षण पृथ्वी से इसकी मात्रा का केवल 1/6 भाग।

हिंदी में लिखा गया

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)



*“I think the difference in the language would be that the originally written article would be easier to understand and relatable.*

*While the one that has been translated automatically would be a bit computer like and bookish kind of a language, as that is obviously translated by the computer.*

*So, it would use the most formal set of words for the text.*

*The written content is written by a person who's well versed in Hindi and then it has also been cross-checked by the team of content writers of Wikipedia who are masters in their language.*

*So, they would not want to publish just anything and everything on Wikipedia. They would have proofread it first and then they would have approved it to go on the website.”*

*(P24 - Multilingual Reader)*



*“Sometimes when we translate the data, the emotions get changed compared to the original Hindi data.*

*For example the meaning of ‘oh my god’ is different in different languages.*

*In Hindi its ‘hey bhagwan’, so the emotions get changed.”*

*(P17 - Multilingual Reader)*



## RITE 2: Finding # 3

R

Most participants feel there is a need to indicate and differentiate between MT and original content.

- P13-Editor 'A symbol is sufficient to differentiate content, as Wikipedia users would recognize a MT symbol.'
- P17-Multilingual Reader - 'Important to be 'transparent.'
- P21-Multilingual Reader - "Good to know', rather than 'Important to know'."
- P23-Monolingual Reader - 'Manual, people can read with blind faith.. MT, there needs to be an indication so people know its a translation and read it with that context.. with attention...'
- P24-Multilingual Reader - 'Yes - Important to caution readers. They may want to cross check information that is MT, and not blindly trust it.'

 चंद्रमा ×

स्वचालित: अंग्रेजी → हिंदी ▾

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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**चंद्रमा की उत्पत्ति** →

विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।।



**अधिक खंड (हिंदी में पहले से उपलब्ध)** →

नाम और व्युत्पत्ति भी देखें।

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 हिंदी में लिखा गया

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है , न कि स्वचालित अनुवाद।

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 हिंदी में लिखा गया

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)

## RITE 2: Finding # 4

R

P-13 and P-20 (Editors) recommend that the original content should be placed first - Before the machine translated content.

**चंद्रमा** ×

🇮🇳 स्वचालित: अंग्रेजी → हिंदी ▾

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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**चंद्रमा की उत्पत्ति** →

विशाल प्रभाव परिकल्पना यह है पृथ्वी और मंगल के आकार के प्र टक्कर से मलबे से बना था।।



**अधिक खंड (हिंदी में पहले से उपलब्ध)** →

नाम और व्युत्पत्ति भी देखें।

---

 हिंदी में लिखा गया

हिन्दी विकिपीडिया संपादकों ने इस विषय के लिए एक पृष्ठ बनाया है। यह मानव - समीक्षित सामग्री है , न कि स्वचालित अनुवाद।

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 हिंदी में लिखा गया

चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह है। हम इसे आमतौर पर रात के आसमान में और दिन में भी देखते हैं। कुछ अन्य ग्रहों में भी चंद्रमा या प्राकृतिक उपग्रह होते हैं।

[पढ़ें लेख](#)

*“I feel that the original words will be much easier to understand as compared to translated words. That’s why all the information should be shown to us in Hindi and it should be at the top of the page.*

*But on this page, all the information has been translated into Hindi by a computer algorithm. I don’t think that a computer algorithm can translate as well as a human.”*

*(P13 - Editor)*



## Concept 5

**Clarity (Headings, Labels)**



Participants do not face any issues due to clarity and comprehension of headings and labels.

**Consistency**



Participants do not face any issues due to inconsistency of labeling or design.

**Self Evidence**



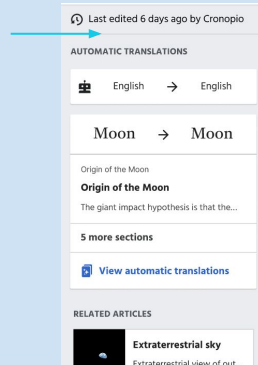
The majority of participants are able to differentiate between MT and original content provided in the search results.

**Usefulness/Value**



Participants appreciate and see value in having machine translated content included in search results, to supplement original content search results.

# Recommendations Summary

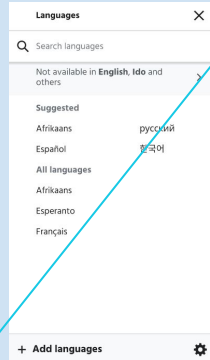


## Concept 1

- Place a visually prominent message at the end of the main article to communicate that further information about the topic is available, but translated from other languages.

Consider using a popup format to stand out from other information on the screen.

# Recommendations Summary

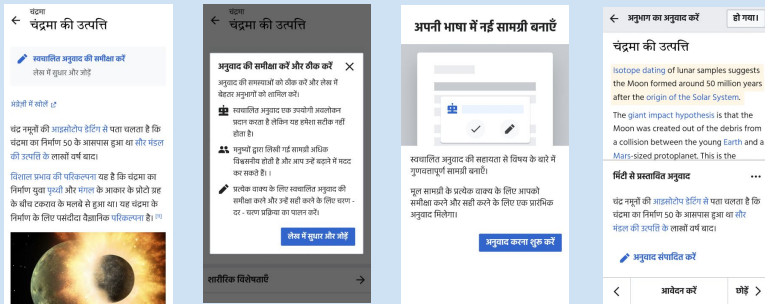


## Concept 2

- Rather than the 'Not Available in..' / 'Add Languages' options, participants expect to see a screen with:
  - Languages the article is available in /
  - Options that can be selected to choose the language they want to translate the English article to /
  - An auto translation of the article in the target language.



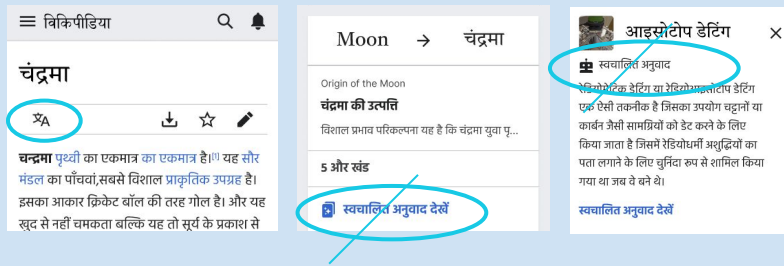
# Recommendations Summary



## 'Review Automatic Translation' function (Study Participant Recommendations)

- MT content to be 'generated' by readers, but not 'published'
- Wikipedia to review reader edited content / quality check before publishing.
- Reduce the number of steps in the 'Review' workflow.

# Recommendations Summary



## Multiple Concepts

- The language selector icon is well recognized and associated with translation.  
Consider using the language selector icon consistently across relevant screens, to indicate 'translation'.
- Indicate and differentiate between MT and original content.

# Recommendations Summary

## Multiple Concepts

- In order to be useful, Machine Translated content must be:
  - Accurate
  - Include original Wikilinks and 'References'
  - Error free (Grammar, Spelling)
  - Linked to the original content and images
  - Editable (An option to edit / change the auto translated text if needed)
  - In easy to read language that is not formal / 'pure' / archaic

# Recommendations Summary



## Multiple Concepts

*(Study Participant Recommendations)*

- Indicate the origin language in the floating language pair in that language, rather than in the Devanagiri script.
- Place human created content before machine translation results  
/ Offer machine translation results only when human created content is not available.

# Appendix



# Interim Report

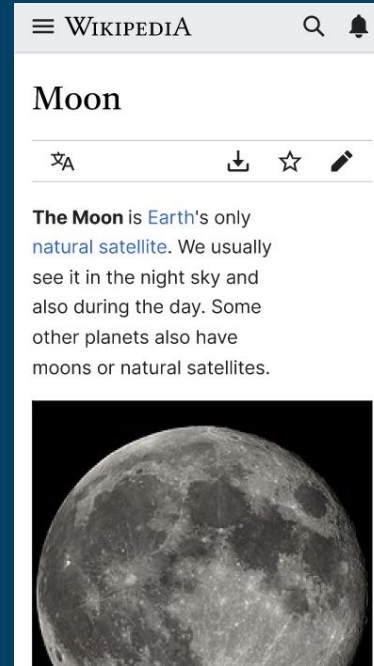
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RITE 1 - Concept Feedback for MinT



# Concept 1

Surfacing missing sections  
after the article




WIKIPEDIA

## Moon

🗨️ ⬇️ ☆ ✎

**The Moon** is [Earth's](#) only [natural satellite](#). We usually see it in the night sky and also during the day. Some other planets also have moons or natural satellites.



🕒 Last edited 6 days ago by Cronopio

**AUTOMATIC TRANSLATIONS** ⚙️

Translated sections from 5 other languages with more on this topic.


**Other languages** → **English**

From English, Japanese, and 3 more

- Origin of the Moon
- Physical characteristics
- Human presence
- Legal status
- 2 more sections

[View automatic translations](#)

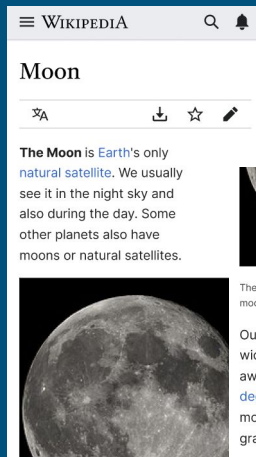
**RELATED ARTICLES**

-  **Extraterrestrial sky**

# Concept 1

The MT card has low discoverability.

- The MT content becomes visible only after two scrolls.
- The card does not stand out amidst other information on the screen.
- 'References' and the settings icon cue end of the page, and some users stop scrolling / reading at this point.



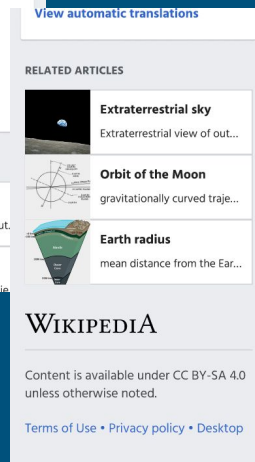
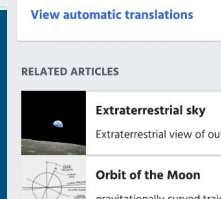
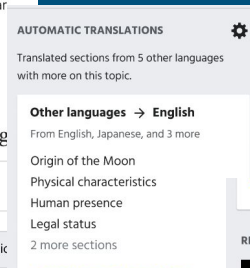
The Moon as seen from Earth. This is a nearly full moon.

Our moon is about one-fourth of the width of the Earth. Because it is far away it looks small, about half a degree wide. The gravity on the moon is one-sixth of the Earth's gravity.<sup>[1]</sup>

Names and etymology

References

Last edited 6 days ago by Cronopic



scroll



# Concept 1

Headings / instructions provided are not read by many.  
Perceptions are formed based on superficial scanning of the content.

- Participants who identify the MT card as the source of further information on the topic, do not register that the content is translated.

*The difference between 'related articles' and 'automatic translations / That fact that some of the content is MT' is not registered or not articulated.*

*Rather, some participants just note that there are 'more Hindi/Awadhi articles' at the bottom of the screen.*

focus areas

अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

स्वचालित अनुवाद

इस विषय पर अधिक के साथ 5 अन्य भाषाओं से अनुभागों का अनुवाद किया गया।

**अन्य भाषाएँ → हिन्दी**  
अंग्रेजी से जापानी और 3 और

चंद्रमा की उत्पत्ति  
शारीरिक विशेषताएँ  
मानव उपस्थिति  
कानूनी स्थिति  
2 और खंड

[स्वचालित अनुवाद देखें](#)

संबंधित लेख

**अलौकिक आकाश**

# Concept 1

MT headings and instructions, seen alongside topics written in the target language confuses participants.

- Participants assume this section is to translate content from the target language > other languages like English and Japanese.

*The heading 'Other Languages > Target Language' is overlooked.*

*Participants focus on the words 'English, Japanese' in the instructions, the 'automatic translation' link and the sub topics written and available in Devangiri script.*

अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

स्वचालित अनुवाद

इस विषय पर अधिक के साथ 5 अन्य भाषाओं से अनुभागों का अनुवाद किया गया।

**अन्य भाषाएँ → हिन्दी**

अंग्रेजी से जापानी और 3 और

चंद्रमा की उत्पत्ति  
शारीरिक विशेषताएँ  
मानव उपस्थिति  
कानूनी स्थिति  
2 और खंड

[स्वचालित अनुवाद देखें](#)

संबंधित लेख

**अलौकिक आकाश**

# Concept 1

For readers, availability and visibility of sufficient / additional content in target language is of primary importance; The fact that some of the content is MT seems to be secondary / does not seem to be of high importance - Particularly when no major quality issues are perceived in the MT.

Editors feel that MT content should be provided after original content / to compensate for lack of original content.

## AUTOMATIC TRANSLATIONS

Translated sections from 5 other languages with more on this topic.

### Other languages → English

From English, Japanese, and 3 more

Origin of the Moon

Physical characteristics

Human presence

Legal status

2 more sections

[View automatic translations](#)

## RELATED ARTICLES



### Extraterrestrial sky

Extraterrestrial view of out...



### Orbit of the Moon

gravitationally curved traie



Our moon is about  $\frac{1}{4}$  of the width of the Earth. The gravity on the moon is one-sixth of the Earth's gravity.

▼ **Names and Etymology**

▼ **References**

🕒 Last edited 6 days ago by Cronopio

**AUTOMATIC TRANSLATIONS** 

▶ **Origin of the Moon**

**Physical  
Characteristics**

**RELATED ARTICLES**



**Extraterrestrial sky**

Extraterrestrial view of out...

*(Variation 1)*

*Consider placing the MT card before or immediately after 'References'*

*- In the same font style and size as the original content sub headers.*

*Use MT indicators that are visually prominent but concise.*

Redesign to focus primarily on visibility and discovery of relevant content.  
Use MT indicators that are visually prominent but concise.



Our moon is about  $\frac{1}{4}$  of the width of the Earth. The gravity on the moon is one-sixth of the Earth's gravity.

▼ **Names and Etymology**

▼ **References**

🕒 Last edited 6 days ago by Cronopio

▼ **Origin of the Moon**  
(Automatic Translation)



▼ **Physical Characteristics**  
(Automatic Translation)



**RELATED ARTICLES**



**Extraterrestrial sky**

Extraterrestrial view of out...

*(Variation 2)*

*Consider placing the MT topics before or immediately after 'References'*

*- In the same font style and size as the original content sub headers.*

*Consider presenting MT content as clickable sub topics, similar to original content subtopics, rather than as a separate card.*

*Use MT indicators that are visually prominent but concise - Possibly next to each article header, rather than as headings or instructions.*

Redesign to focus primarily on visibility and discovery of relevant content.  
Use MT indicators that are visually prominent but concise.

# Concept 1

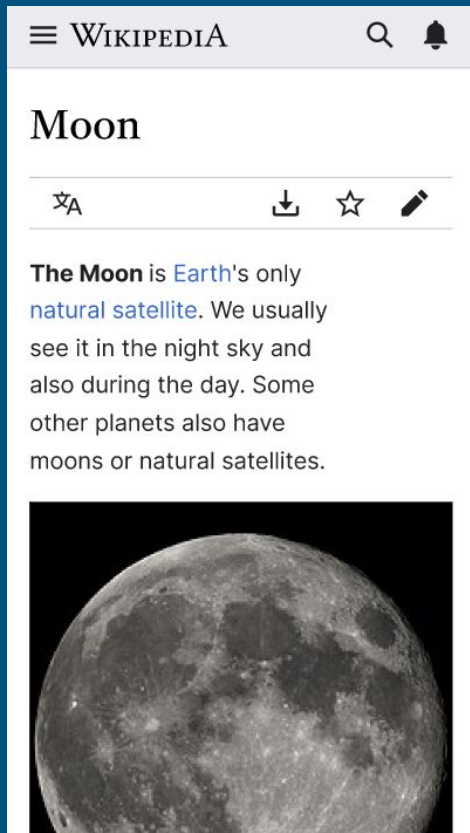
'Search is the default' go-to for many readers wanting to find more info / detail than what is presented on the article being viewed.

- 'Search' is clearly visible above the scroll. Most participants said they would use Search in the target language to find more information / detail.

This finding confirms that linking Search to MT content (Concept 4) will support user behavior.

*[Editors](#) on the other hand, check 'references'.*

*Also - 'Related articles' / Consider adding new content themselves / Click on the hyperlinked words in the article / Go to Desktop mode to find articles in multiple languages*



# Concept 1

अन्य भाषा मा → अवधी  
अंग्रेजी, जापानी, अउर 3 अउर से

चंद्रमा का उत्पत्ति  
भौतिक मा विशेषता  
मानव उपस्थिति  
कानूनी स्थिति  
2 अउर धारा

**स्वचालित अनुवाद का देखावा**

संबंधित लेख अउर लेख


 **अलौकिक आकाश**  
बाहरी अंतरिक्ष का बाहरी दृश्य

 **चंद्रमा का परिक्रमा**  
गुरुत्वाकर्षण का वक्र प्रक्षेपवक्र चं...

 **पृथ्वी का त्रिज्या**  
पृथ्वी के केंद्र से सतह तक की औ...

Awadhi readers find the term 'Swachalit Anuvad' formal and hard to understand.

Use simple words / Hinglish especially for technical terms.

 **चंद्रमा** ✕

✎ स्वचालित: अंग्रेजी → हिंदी ✓  
हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें

**चंद्रमा की उत्पत्ति** →  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।



**शारीरिक विशेषताएँ** →  
चंद्रमा का गुरुत्वाकर्षण पृथ्वी से कम है (पृथ्वी पर इसकी मात्रा का केवल 1/6 भाग)।



An editor misses seeing the original article source indicated on the summary page.

Another editor indicates that the 'Always review automatic content' instruction is potentially confusing to readers.

चंद्रमा  
← **चंद्रमा की उत्पत्ति**

 **स्वचालित अनुवाद की समीक्षा करें**  
लेख में सुधार और जोड़ें

अंग्रेजी में खोलें 

चंद्र नमूनों की आइसोटोप डेटिंग से पता चलता है कि चंद्रमा का निर्माण 50 के आसपास हुआ था **सौर मंडल की उत्पत्ति** के लाखों वर्ष बाद।

विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के प्रोटो ग्रह के बीच टक्कर के मलबे से हुआ था। यह चंद्रमा के निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना है।<sup>[1]</sup>



Editors are concerned that the review and edit option is available without needing to login and without any workshops. (Scope for errors if anyone can edit / Concern that quality of Wikipedia may fall)

Consider ways in which to differentiate this quick editing opportunity from the more extensive editing that Wikipedia editors are accustomed to.

# Design Recommendations Summary

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- Redesign to focus primarily on visibility and discovery of relevant content.
- Use MT indicators that are visually prominent, but concise.
- Use simple words / Hinglish especially for technical terms.
- Consider ways in which to differentiate this quick editing opportunity from the more extensive editing that Wikipedia editors are accustomed to.




# Concept 2

## Language Selector

WIKIPEDIA

### Giant impact hypothesis

The **giant impact hypothesis** is that the [Moon](#) was created out of the debris from a collision between the young [Earth](#) and a [Mars](#)-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>

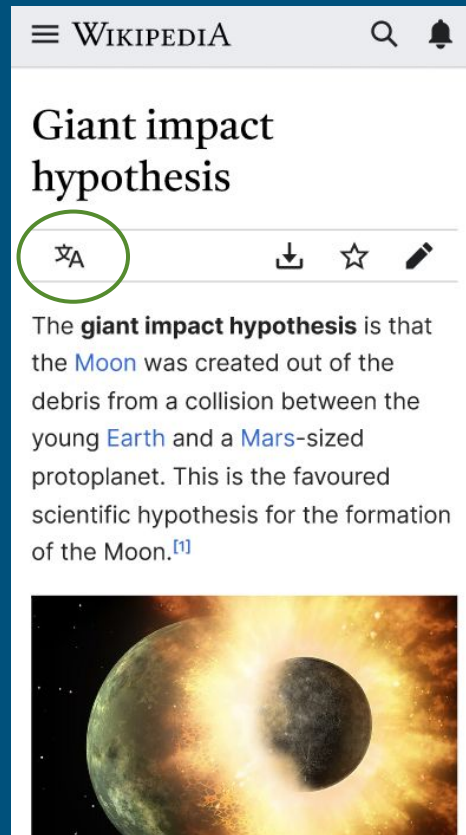


# Concept 2

Most participants identify the language selector as the way to translate the English article to a different language.

Individual participants experience minor confusions.

- *Taking a cue from the characters forming the icon, a reader expected translation options to be available for Chinese and English only.*



The screenshot shows the Wikipedia mobile interface for the article "Giant impact hypothesis". At the top, the Wikipedia logo and search/notification icons are visible. The article title "Giant impact hypothesis" is prominently displayed. Below the title, a horizontal toolbar contains several icons: a language selector icon (a character '文' followed by 'A'), a download icon, a star icon, and an edit icon. The language selector icon is circled in green. The main text of the article begins with "The **giant impact hypothesis** is that the [Moon](#) was created out of the debris from a collision between the young [Earth](#) and a [Mars](#)-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>" Below the text is a large image depicting a celestial body, likely Earth, being struck by a smaller protoplanet, with a bright, glowing impact plume.

## Concept 2

- *The Hindi word 'Sandarbh' stands out from the English section titles, and was interpreted as a possible translation option. (Bug?)*
- *Based on their experience with Concept 1, two participants expected 'View Automatic Translation' to be the way to translate the English article.*

Consider providing a 2nd path to content translation - By including the option to automatically translate the article on the screen, along with the current option to find additional details in other languages.

✓ Composition

✓ Alternative hypothesis

✓ सन्दर्भ

🔔 अंतिम बार संपादित किया गया 6 days ago  
द्वारा Chronopio

स्वचालित अनुवाद

Access automatic translations to learn more  
from contents in other languages.

अन्य भाषाएँ → हिन्दी

There no additional sections in other  
languages, but you can still find additional  
details in other languages.

[स्वचालित अनुवाद देखें](#)

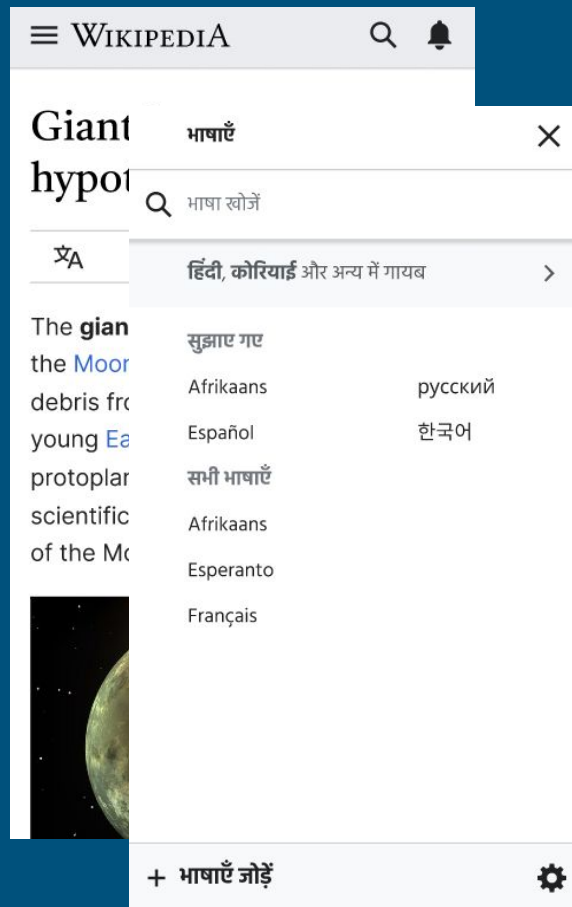
## Concept 2

The screen that appears on clicking the language selector icon is unexpected.

- Participants expect to see language options that can be selected to choose the language they want to translate to.

Provide cue's on this screen to confirm to users that the translation options provided are in context to the English article on the previous screen.

*An editor was confused seeing generic pages post clicking the language selector icon. (Rather than translation options specific to the article on the previous page).*



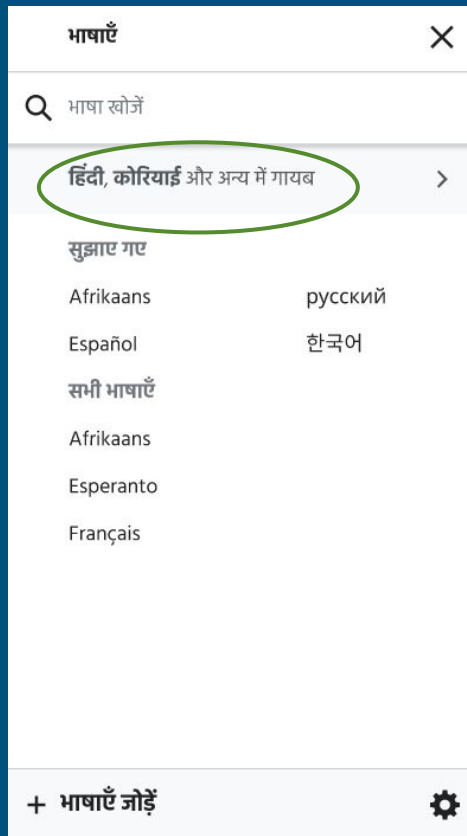
## Concept 2

The wording ‘**Missing in...**’ and the function of this section is not accurately interpreted / confuses participants.

The label does not cue that it links to ‘Read MT’ / ‘Translate’ options.

- While an editor understood that the article was not available in Hindi, he was unsure what clicking on ‘Missing...’ would lead to.

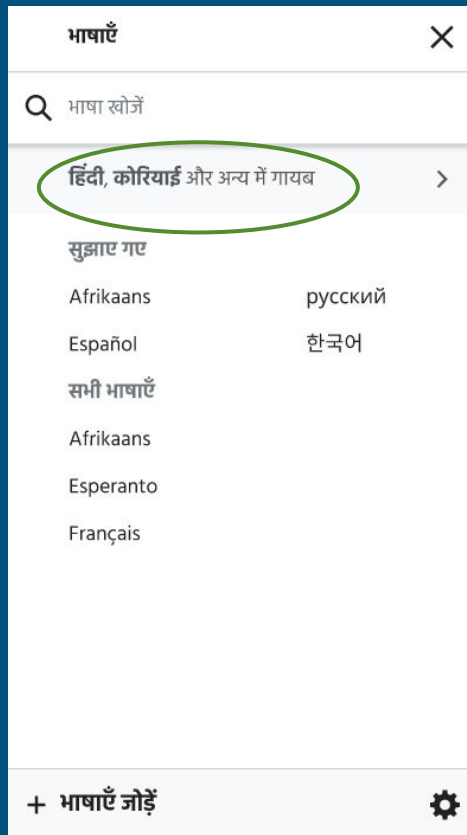
- A monolingual Chhattisgarhi reader interpreted this instruction as ‘Korean and Chhattisgarhi are removed’ (‘Gayab’ interpreted as ‘removed’ vs. ‘missing’)



## Concept 2

- A reader registered the words 'Hindi' and 'Korean' and assumed that clicking this would generate content in those two languages. However the word 'missing' in the instruction confused the participant.

- Another reader found it hard to imagine what would come upon clicking on 'missing in...'  
  
His guess was - An explanation of why the article is not available in Hindi / Why it is only available in a few languages.



## Concept 2

Users don't read instructions / skim rather than read.

- On clicking 'missing in..', the 'Translate this page' option is not accurately interpreted / confuses participants.

Moreover, the list of languages catches attention rather than the 'Read an automatic translation' option below.

*The instruction to create a page in missing languages was overlooked by a reader.*

*Instead, focus was on the list of languages.*

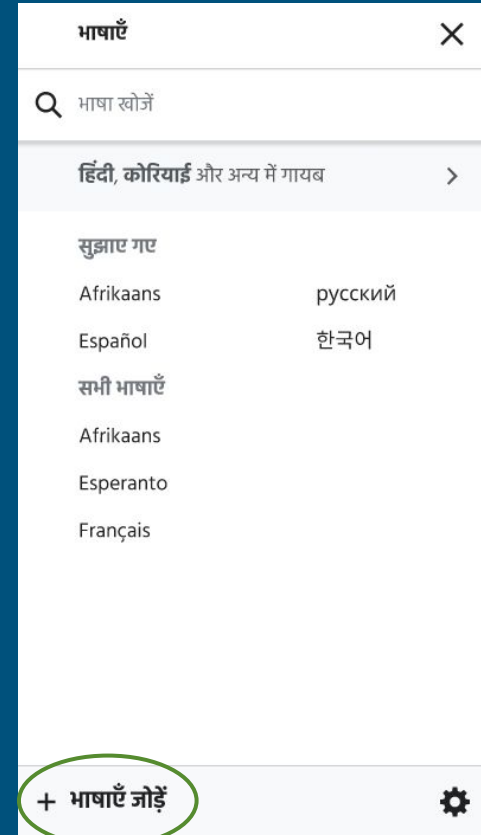
*The reader assumed that clicking on them would generate a MT in that language.*

focus  
area

## Concept 2

The 'Add Languages' option was hidden below the scroll for 3/12 participants.

Participants did not discover the option until the moderator prompted them to scroll.





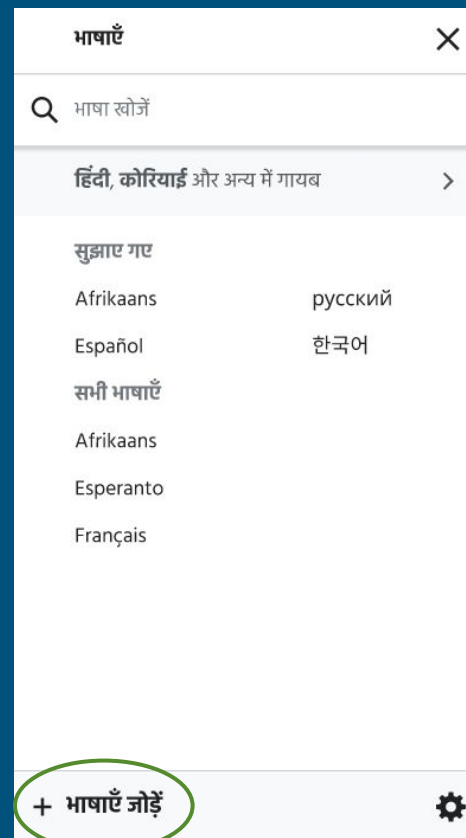
## Concept 2

The label 'Add Languages' does not cue that it links to 'Read MT' / 'Translate' options.

Participants misinterpret or under interpret this option.

- A reader interpreted this to be an option to select and read content in 'other regional languages'
- 3 other readers interpreted this as an option to add a language. (Access to a list where a new language could be chosen.)

- An editor assumed 'Add Languages' was an option to translate to a language he knew and make that language available on the list above. (Like a shopping cart)



# Concept 2

On the other hand, readers had no difficulty understanding / differentiating the options on the simpler screen.  
(On clicking 'Add Languages')





भाषाएँ

भाषा खोजें

हिंदी, कोरियाई और अन्य में गायब

सुझाए गए

Afrikaans	русский
Español	한국어

सभी भाषाएँ

Afrikaans	
Esperanto	
Français	

+ भाषाएँ जोड़ें



← इस पृष्ठ का अनुवाद करें

यह पृष्ठ कुछ भाषाओं में गायब है जिन्हें आप जानते होंगे। कुछ ही मिनटों में अपनी भाषा में एक नया पृष्ठ बनाएँ

+ हिंदी

+ छत्तीसगढ़ी

+ अवाई

... 12 अन्य भाषाएँ

एक स्वचालित अनुवाद पढ़ें

अन्य भाषाओं में सामग्री का स्वचालित पूर्वविलोकन। उनकी समीक्षा करें और उन्हें सही करें।



← भाषाएँ जोड़ें

भाषा लिंक संपादित करें

पृष्ठों को तब जोड़ें जब वे पहले से ही अन्य भाषाओं में मौजूद हों।

+ इस पृष्ठ का अनुवाद करें

अपनी भाषा में एक नया पृष्ठ बनाने के लिए चरण - चरण अनुवाद प्रक्रिया।

एक स्वचालित अनुवाद पढ़ें

समीक्षा करने और ठीक करने के लिए अन्य भाषाओं में सामग्री का स्वचालित पूर्वविलोकन।

# Giant impact hypothesis



The **giant impact hypothesis** is that the **Moon** was created out of the debris from a collision between the young **Earth** and a **Mars**-sized protoplanet. This is the favoured scientific hypothesis for the formation of the Moon.<sup>[1]</sup>



Giant Impact Hypothesis is **available to read** in other languages:

Hindi

---

Don't see the Giant Impact Hypothesis article in a language of your choice?

**+ Translate this Page**  
Follow step-by-step instructions to create this page in a language that you know.

**Read an Automatic Translation**  
Generate an automatic translation to immediately read the article in a language of your choice.

English -----> Awadhi

Language options to allow users to choose the language they want to read in.

Options to 'Translate' or 'Read an Automatic Translation' if the target language is not available.

Reduce clicks + Present all options to read the article in a different language, at the same level. Provide cue's to confirm to users that the translation options provided are in context to the English article on the previous screen.

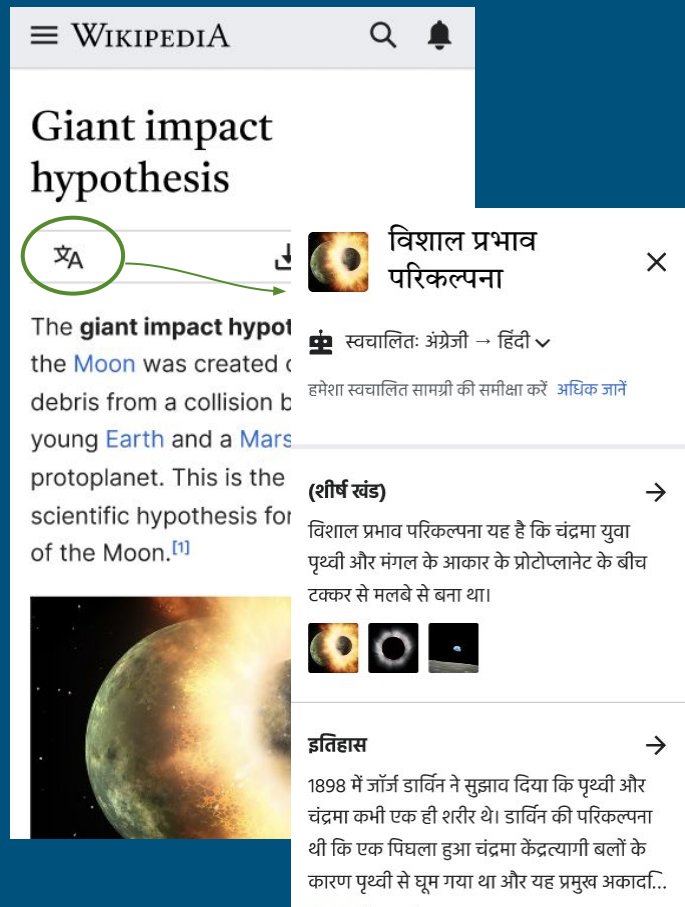
## Concept 2

Change in format between the original article and automatically translated output confuses some participants.

- Participants are confused when **'automatic translation'** results in a page showing multiple summaries that need to be clicked to read further.

Rather, the expectation was to see the translated content in the same format as the original English article.

Maintain consistency of format between the original article and the automatic translation.



The screenshot shows a mobile view of the Wikipedia article 'Giant impact hypothesis'. The page is in English, but a translation overlay in Hindi is visible on the right side. The overlay has a title 'विशाल प्रभाव परिकल्पना' (Giant Impact Hypothesis) and a close button. Below the title, it says 'स्वचालित: अंग्रेजी → हिंदी' (Automatic: English → Hindi) and 'हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें' (Always check automatic content for more). There are three small thumbnail images below the text. The main article text is partially visible, showing the beginning of the hypothesis: 'The giant impact hypothesis states that the Moon was created from the debris from a collision between a young Earth and a Mars-sized protoplanet. This is the scientific hypothesis for the origin of the Moon.'

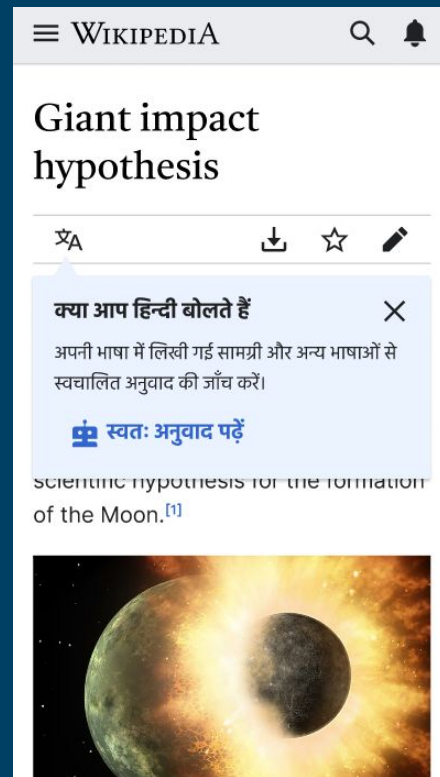
# Design Recommendations Summary

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- Consider providing a 2nd path to content translation - By including the option to automatically translate the article on the screen, along with the current option to find additional details in other languages.
- Reduce clicks + Present all options to read the article in a different language, at the same level.
- Provide cue's to confirm to users that the translation options provided are in context to the English article on the previous screen.
- Maintain consistency of format between the original article and the automatic translation.

# Concept 3

Language Selector  
Pop Up



# Concept 3

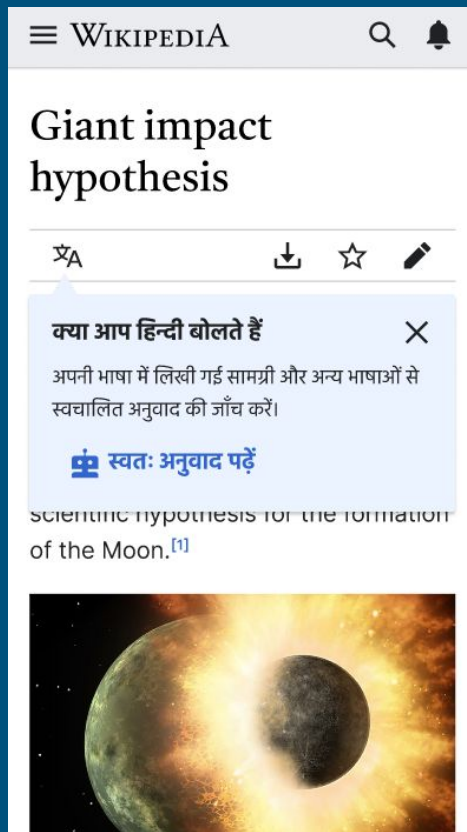
The language invite prompt is noticed immediately by most participants.

Individual participants highlight issues with the pop up format.

- A reader finds the UI unexpected, as it is different from her \*current Wikipedia experience. (Preferred)

\*Results automatically appear in the language of search.

- Another reader was suspicious of the pop up format, because of the increasing rate of cyber crime in India. Moreover, the pop up format was alarming as it cued 'alert'.
- Although it was noticed, the pop up format didn't hold the attention of another reader who was used to ignoring / closing pop ups while browsing online content.





# Concept 3

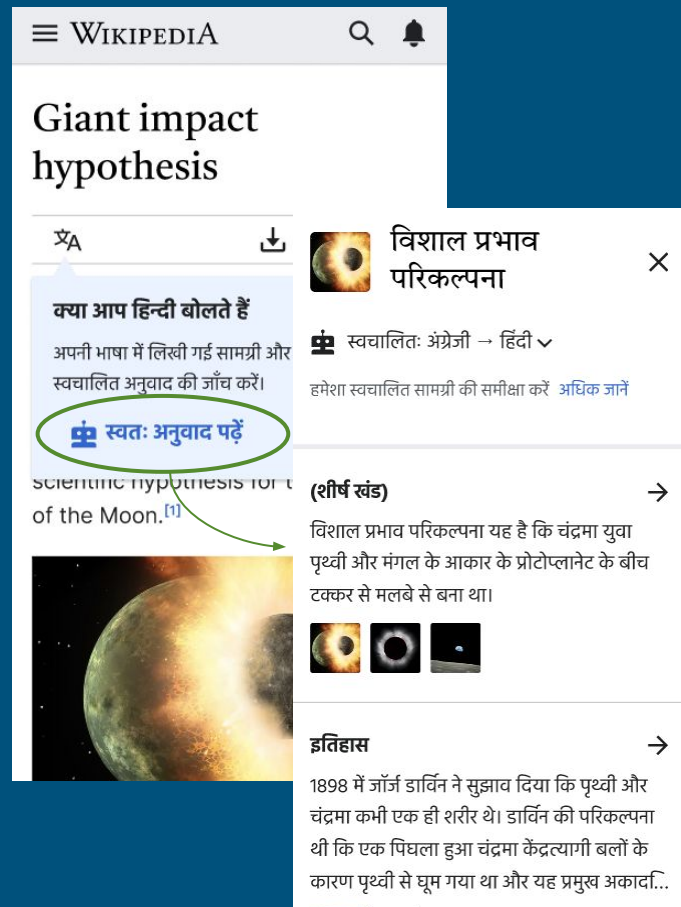
Individual participants provided feedback about the pop up message.

- An editor suggested that the wording on the popup currently cues 'survey' (Suggests changing the label from 'Do you speak Hindi?' to 'Read in Hindi')

- Another editor found the message formal / Felt formal language may not be understood by everyone.

(Editor suggestions)

- Change label from 'Do you speak Hindi' to 'Read in Hindi'
- 'Swachalit' seems to be easier to understand than 'Swatha'



The screenshot shows the Wikipedia article for 'Giant impact hypothesis' in Hindi. A language popup is visible, asking 'क्या आप हिन्दी बोलते हैं' (Do you speak Hindi?). The popup text includes 'अपनी भाषा में लिखी गई सामग्री और स्वचालित अनुवाद की जाँच करें।' and a button labeled 'स्वतः अनुवाद पढ़ें' (Read in Hindi), which is circled in green. An arrow points from this button to the main article text. The article text includes 'scientific hypothesis for the of the Moon.[1]' and an image of the Moon. The sidebar on the right contains a search bar, a title 'विशाल प्रभाव परिकल्पना', a language selector 'स्वचालित: अंग्रेजी → हिंदी', a link to 'हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें', a section '(शीर्ष खंड)' with a link to 'विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।', and a section 'इतिहास' with a link to '1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादि..'

# Concept 3

Change in format between the original article and automatically translated output is not in line with expectations and confuses some participants.

- *Because of the change in format, a reader assumed that the translated content was different from the original English article.*

Maintain consistency of format between the original article and the automatic translation.

- *Editors also expect and want to see the full article, rather than having to click into each summary.*

WIKIPEDIA

## Giant impact hypothesis

क्या आप हिन्दी बोलते हैं  
अपनी भाषा में लिखी गई सामग्री और स्वचालित अनुवाद की जाँच करें।  
**स्वतः अनुवाद पढ़ें**

स्वचालित: अंग्रेजी → हिंदी  
हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें

scientific hypothesis for the formation of the Moon.<sup>[1]</sup>

(शीर्ष खंड) →  
विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।

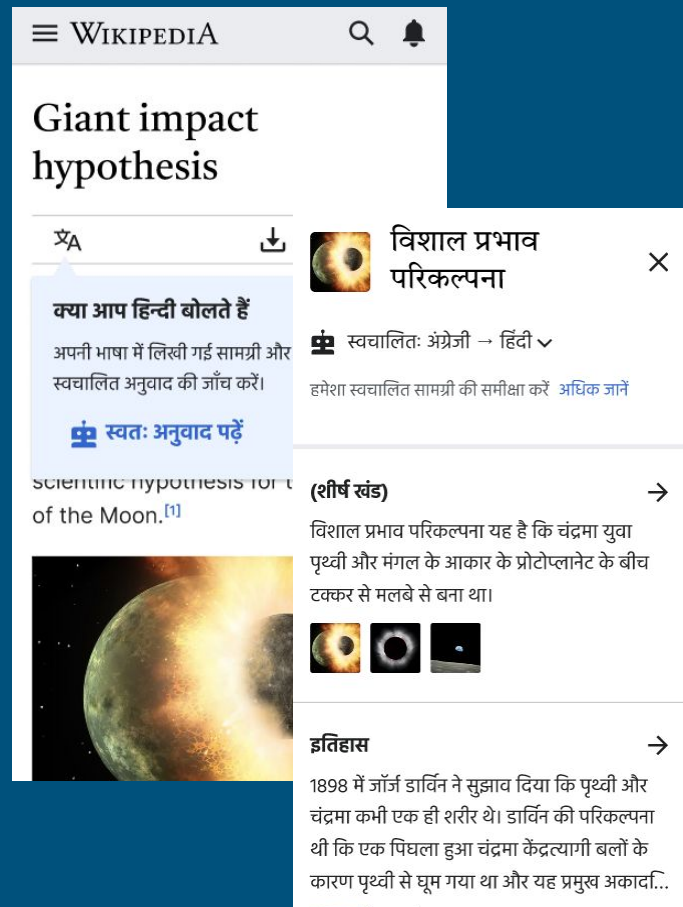
इतिहास →  
1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादि...

# Concept 3

Editors are concerned that MT will not capture the essence of the original content the way a manual translation will.

Therefore, they want to be able to compare translated content with original content to gauge accuracy of translation.

Provide a link to the original content, along with the automatic translation. An editor suggested a 'split screen' option to compare translated content against original content.



The image shows a mobile view of a Wikipedia article titled "Giant impact hypothesis" in Hindi. The article text is partially visible, including the sentence "scientific hypothesis for the formation of the Moon." and a large image of the Moon. A translation overlay is active, showing the original English text on the left and the Hindi translation on the right. The overlay includes a search icon, a download icon, and a close button. The Hindi text reads: "क्या आप हिन्दी बोलते हैं अपनी भाषा में लिखी गई सामग्री और स्वचालित अनुवाद की जाँच करें।" Below this is a link "स्वतः अनुवाद पढ़ें". The right side of the overlay shows the article title "विशाल प्रभाव परिकल्पना" with a close button, a language selector set to "अंग्रेज़ी → हिंदी", and a link "हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें". Below the title is a section "शीर्ष खंड" with a right arrow, containing the Hindi text: "विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।" At the bottom is a section "इतिहास" with a right arrow, containing the Hindi text: "1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादमि..".

# Design Recommendations Summary

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- Change pop-up label from 'Do you speak Hindi' to 'Read in Hindi'
- Use the word 'Swachalit' for 'automatic' rather than 'Swatha'
- Maintain consistency of format between the original article and the automatic translation.
- Provide a link / way to view the original content, along with the automatic translation.

# Concept 4

## Search



# Concept 4

All participants proactively click on 'search' when asked to find a specific article on Wikipedia.

Individual participants want a 'History' option / A way to quickly find recently viewed content.

- *2 readers wished for a 'History' option, in order to quickly retrieve previous / recently viewed articles.*

- *Another reader attempted to check the hamburger menu for previously browsed Wikipedia content.*



The screenshot shows the Hindi Wikipedia homepage. At the top, there is a navigation bar with the text 'विकिपीडिया' (Wikipedia) and icons for search and notifications. Below the navigation bar, a large heading reads 'विकिपीडिया में आपका स्वागत है।' (Welcome to Wikipedia). Underneath, there is a section titled 'प्रमुख लेख' (Featured Article). The featured article is about 'सुशी' (Sushi), accompanied by a photograph of various sushi pieces on a black plate. The text of the article is in Hindi and describes sushi as a traditional Japanese dish made with vinegared rice, seaweed, and various fillings.

**सुशी** आम तौर पर कुछ चीनी और नमक के साथ तैयार सिरके वाले चावल का एक जापानी व्यंजन है, जिसमें विभिन्न प्रकार की सामग्री जैसे समुद्री भोजन - अक्सर कच्चा - और सब्जियां होती हैं।

# Concept 4

Most participants don't register the difference between the two types of content presented on the screen. (MT vs. Original language)

Even those who notice the 'MT' - indication for 'Giant Impact Hypothesis', don't identify or don't articulate that 'Giant Panda' is original content.

- *A reader assumed that the panda is shown as a result since it is a 'trending topic' / reflective of search history.*



# Concept 4

For many readers, availability and visibility of sufficient / additional content in target language is of primary importance.

The fact that some of the content is MT seems to be secondary.

Editors on the other hand feel that it is important to highlight the difference clearly, so people are aware - Since MT is sometimes inaccurate.

Use MT indicators that are visually prominent but concise - Rather than headings or instructions that are subtle or lengthy.





# Concept 4

An individual editor wanted the link to the original English article to check if content is from a reliable source.

- Editors also want to compare the translation with the original content to see if the MT captures the essence of the original content.

Provide a link / way to view the original content, along with the automatic translation.

The screenshot shows a mobile search interface. At the top, a search bar contains the text "विशाल प्रभाव परिकल्पना" (Giant Impact Hypothesis). Below the search bar, there is a header "पृष्ठों के भीतर खोजें" (Search within pages). The search results are displayed in a list format. The first result is titled "विशाल प्रभाव परिकल्पना" (Giant Impact Hypothesis) and includes a small image of a planet. Below the title, there is a sub-header "स्वचालित अनुवाद देखें" (View automatic translation) and a note "अंग्रेजी से जापानी और 3 और" (From English to Japanese and 3 more). The main text of the result is "विशाल प्रभाव परिकल्पना चंद्रमा के गठन के बारे में" (Giant Impact Hypothesis about the formation of the Moon). Below the text, there is a keyboard with the letters Q, W, E, R, T, Y, A, S, D, F, G, H, Z, X, C, V, B, and a space bar. To the right of the keyboard, there is a section titled "(शीर्ष खंड)" (Top section) with a right arrow. The text in this section is "विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।" (The Giant Impact Hypothesis is that the Moon was formed from the debris of a collision between the young Earth and a Mars-sized protoplanet). Below this section, there is a section titled "इतिहास" (History) with a right arrow. The text in this section is "1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकादमि..." (In 1898, George Darwin suggested that the Earth and the Moon were once a single body. Darwin's hypothesis was that a molten Moon was captured by the Earth's gravity and eventually merged with the Earth due to tidal forces, forming the Moon).


# Concept 4

Individual participants provided feedback about comprehension and ease of reading MT content.

- *Formal or literary words used in the MT content are hard to understand.*

- *Technical terms in particular terms are difficult to comprehend when translated into Hindi / dialects.*

- For technical terms, consider using English words written in Devanagiri script. (e.g. The English word 'hypothesis' written in the Devanagiri script vs. the formal term 'Parikalpana')
- Train the system to use simpler / colloquial words over formal terms. (e.g. 'Bahut Bada' vs. 'Vishal')

 विशाल प्रभाव  
परिकल्पना ×


🇮🇳 स्वचालित: अंग्रेजी → हिंदी ✓

हमेशा स्वचालित सामग्री की समीक्षा करें [अधिक जानें](#)

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**(शीर्ष खंड)** →

विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।

**इतिहास** →


Moon  
← Origin of the Moon

**Review and fix translations** ✕

Fix translation issues and incorporate the improved sections to the article.

- 🏠 Automatic translation provides a useful overview, but it is not always accurate.
- 👥 Contents written by humans are more reliable, and you can help expanding them!
- ✎ Follow a simple step by step process to review and correct automatic translations for each sentence.

[Correct and add to the article](#)



*Generic vs. Specific  
motivators to  
review and fix  
translations*


Moon  
← Origin of the Moon

**Review and Fix Translations**

*Automatic translation provides a useful overview, but is not always accurate or easy to understand.*

- Suggest simpler / colloquial terms to replace formal terms that readers may not understand.
- Correct sentence structure or grammatical errors.
- Correct factual errors or add facts that you notice are missing.

[Correct and add to the article](#)



Rather than providing generic reasons to review and fix automatic translations, motivate and guide readers to improve translation quality in specific ways that were highlighted by participants during the research study. Providing restricted edit capability publicly (outside login) can also reassure editors who are concerned about quality of edits.

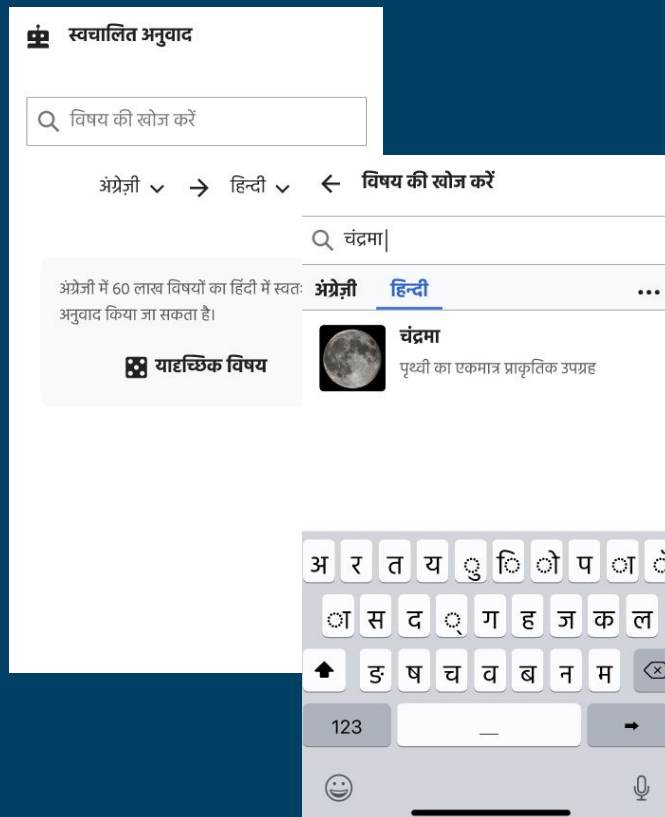
# Design Recommendations Summary

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- Individual participants want a 'History' option / A way to quickly find recently viewed content.
- Use MT indicators that are visually prominent but concise - Rather than headings or instructions that are subtle or lengthy.
- Provide a link / way to view the original content, along with the automatic translation.
- For technical terms, consider using English words written in Devanagiri script.  
Train or program the MT system to use simpler / colloquial words over formal terms.
- Rather than providing generic reasons to review and fix automatic translations, motivate and guide readers to improve translation quality in specific ways.  
Providing restricted edit capability publicly (outside login) can also reassure editors who are concerned about quality of edits.

# Concept 5

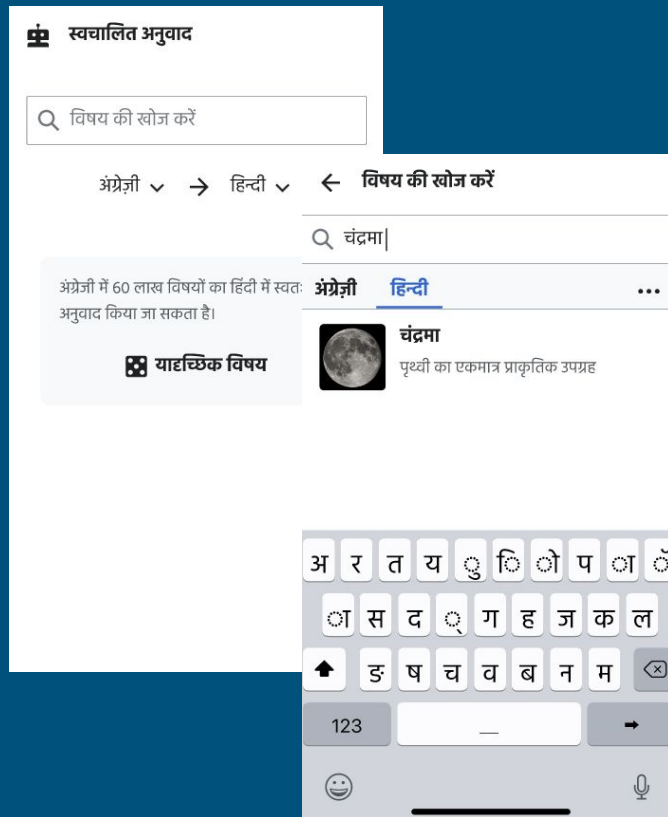
## Machine Translation Home



# Concept 5

Participants carry forward their expectations around the UI, based on their current Wikipedia usage and experience.

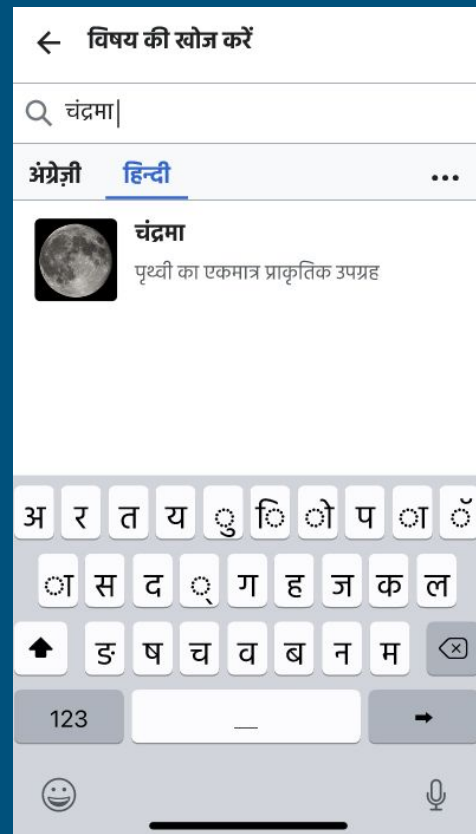
- Many click on 'Hindi' / 'Awadhi' to type out their search query in their desired language.  
*(Reflective of how they currently search on Wikipedia)*



# Concept 5

Most participants were comfortable with the language keyboard appearing on screen.

- Individual participants mention their preference to use voice commands / Google Indic keyboard.



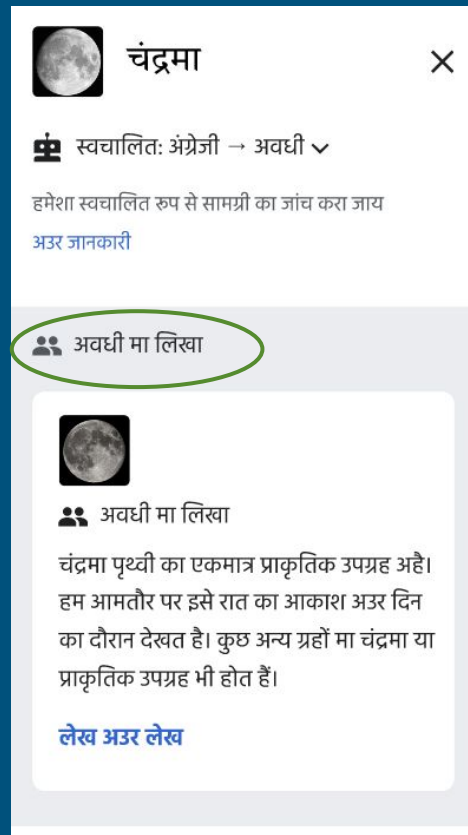
# Concept 5

The 'Written in ...' label confuses most participants.

- Several participants interpret this to mean the content originally written in English is now shown in Hindi / Awadhi. (A translation)

- *A reader now familiar with the 'swachalith' label, was able to recognize that some content is machine translated.*

*However, he was unable to understand the difference between the translated content and content 'Written in Hindi' which he guessed may 'redirect' / 'go to a different link'.*



The screenshot shows a social media interface. At the top, there is a profile picture of a moon and the name 'चंद्रमा' (Chandrama) with a close button 'X'. Below this, it says 'स्वचालित: अंग्रेजी → अवधी' (Machine Translated: English → Awadhi) with a dropdown arrow. The main text of the post reads: 'हमेशा स्वचालित रूप से सामग्री का जांच करा जाय अउर जानकारी' (Always check the content automatically and get information). Below the text, there is a button with a person icon and the text 'अवधी मा लिखा' (Written in Awadhi), which is circled in green. Underneath this button is a preview of the content, which includes the same moon profile picture, the name 'अवधी मा लिखा', and the text: 'चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहै। हम आमतौर पर इसे रात का आकाश अउर दिन का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या प्राकृतिक उपग्रह भी होत हैं।' (Chandrama is the only natural satellite of Earth. We usually see it in the night sky and during the day in some other planets or natural satellites). At the bottom of the preview, there is a link 'लेख अउर लेख' (Read more articles).



# Concept 5

Having the original content sandwiched between the MT heading and MT content reinforces the perception that all content on the page is translated content.

- Some readers and an editor interpret 'Written in..' as the 'complete' article that contains all the details; And MT content as sub-sections or direct entry points to specific details.

- Place original content first, and all MT headings and content after this.
- Differentiate MT content from original content by using MT indicators that are visually prominent but concise / Avoid labelling original content, as this causes confusion.

The screenshot shows a mobile news article titled 'चंद्रमा' (Moon). The interface includes a header with a moon icon and a close button. Below the header, there are three main sections, each highlighted with a green circle:

- Section 1:** A sub-heading 'स्वचालित: अंग्रेजी → अवधी' (Auto-generated: English → Awadhi) is circled. Below it, the text reads 'हमेशा स्वचालित रूप से सामग्री का जांच करा जाय अउर जानकारी' (Always auto-generated content is checked and information).
- Section 2:** A sub-heading 'अवधी मा लिखा' (Written in Awadhi) is circled. Below it, there is a moon icon, another sub-heading 'अवधी मा लिखा', and the text: 'चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहे। हम आमतौर पर इसे रात का आकाश अउर दिन का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या प्राकृतिक उपग्रह भी होत हैं।' (The Moon is the only natural satellite of Earth. We usually see it in the night sky and during the day in some other planets. The Moon or natural satellites are also found in some other planets.). Below this text is a link 'लेख अउर लेख' (Read more).
- Section 3:** A sub-heading 'स्वचालित रूप से अनुवादित' (Auto-translated) is circled. Below it, there is a sub-heading 'चंद्रमा का उत्पत्ति' (Origin of the Moon) and the text: 'विशाल प्रभाव परिकल्पना इ है कि चंद्रमा युवा पृथ्वी अउर मंगल ग्रह के आकार का प्रोटोप्लानेट के बीच टकराव से अवशेष से बना रहा। मा का अर्थ' (The Giant Impact Hypothesis is that the Moon was formed from the debris left over from the collision of a protoplanet with the early Earth.). Below this text are two small images: one of the Earth and one of the Moon.


# All Concepts


For many readers, availability and visibility of sufficient / additional content in target language is of primary importance.

The fact that some of the content is MT seems to be secondary.


Editors on the other hand feel that it is important to highlight the difference clearly, so people are aware - Since MT is sometimes inaccurate.


Use MT indicators that are visually prominent but concise - Rather than headings or instructions that are subtle or lengthy.


 चंद्रमा ✕

 स्वचालित: अंग्रेजी → अवधी ✓

हमेशा स्वचालित रूप से सामग्री का जांच करा जाय  
[अउर जानकारी](#)


 अवधी मा लिखा



 अवधी मा लिखा


चंद्रमा पृथ्वी का एकमात्र प्राकृतिक उपग्रह अहै। हम आमतौर पर इसे रात का आकाश अउर दिन का दौरान देखत है। कुछ अन्य ग्रहों मा चंद्रमा या प्राकृतिक उपग्रह भी होत हैं।

[लेख अउर लेख](#)

 स्वचालित रूप से अनुवादित

**चंद्रमा का उत्पत्ति** →

विशाल प्रभाव परिकल्पना इ है कि चंद्रमा युवा पृथ्वी अउर मंगल ग्रह के आकार का प्रोटोप्लानेट के बीच टकराव से अवशेष से बना रहा। मा का अर्थ



# Concept 5

On clicking into a translation summary, an editor wished to see the original article alongside the translation. (Like a split screen)

Another editor wished to see a reference to the original English article at the summary level itself.

Provide a link / way to view the original content, along with the automatic translation.


चंद्रमा  
← चंद्रमा की उत्पत्ति

✎ स्वचालित अनुवाद की समीक्षा करें  
लेख में सुधार और जोड़ें


अंग्रेज़ी में खोलें

चंद्र नमूनों की आइसोटोप डेटिंग से पता चर चंद्रमा का निर्माण 50 के आसपास हुआ था की उत्पत्ति के लाखों वर्ष बाद।

विशाल प्रभाव की परिकल्पना यह है कि चंद्रमा का निर्माण युवा पृथ्वी और मंगल के आकार के बीच टकराव के मलबे से हुआ था। यह निर्माण के लिए पसंदीदा वैज्ञानिक परिकल्पना



विशाल प्रभाव परिकल्पना यह है कि चंद्रमा युवा पृथ्वी और मंगल के आकार के प्रोटोप्लानेट के बीच टक्कर से मलबे से बना था।



इतिहास →

1898 में जॉर्ज डार्विन ने सुझाव दिया कि पृथ्वी और चंद्रमा कभी एक ही शरीर थे। डार्विन की परिकल्पना थी कि एक पिघला हुआ चंद्रमा केंद्रत्यागी बलों के कारण पृथ्वी से घूम गया था और यह प्रमुख अकाद...

विशाल प्रभाव परिकल्पना ×

🌑 स्वचालित: अंग्रेज़ी → हिंदी ✓

हमेशा स्वचालित सामग्री की समीक्षा करें अधिक जानें

(शीर्ष खंड) →

# Design Recommendations Summary

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- Place original content first, and all MT headings and content after this.
- Differentiate MT content from original content by using MT indicators that are visually prominent but concise.
- Avoid labelling original content, as this causes confusion.
- Provide a link / way to view the original content, along with the automatic translation.