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CONTENTS

The Translation of English Scientific Metaphorical Expressions into Arabic.
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1.Inroduction :

All languages are loaded with metaphors. However, the purpose of using metaphor differs according to the intention of its producer in a given context of situation .In literary language, for example, metaphor is used as an ornament,as a figure of speech or for colouring language (Newmark,1988: 84). Generally, metaphors are used to transfer a large amount of information by using a minimum number of words. The main advantage of metaphor is to be concise and effective (Osler, 1997:93). Lakoff and Johnson (2003 :190) state that metaphors are conceptual in nature and these conceptual metaphors are grounded in everyday experience.

In translation, the process of producing an appropraite target text becomes more difficult when takling a metaphor becuase the translator has to exert additional efforts in solving some additional problems emerging from the indirectness implied in metaphors. Therefore, the translator should analyse both the liguistic and cultural contexts of metaphor not only in ordinary language but also in science. (Bolinska et al.,2003:46).

Metaphor appears in different genres. Yet, it is mostly found in literary ones. However, metaphor is also used in the language of science. Scientists read and translate nature just as translators read and translate source texts. Sarukkai (2001:652) argues that scientific texts form one uniform genre though he admits the possibility of overlaps with those characteristics of literary generes. He adds that scientific texts are, in general, "structurally similar " to prose texts.The scientific text gradually develops starting with simple ideas and equations to more complex problems and solutions. Such texts include arguments, proofs, suggestions, references, and so on. All these elements constitute the style of the genre

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itself. The translator has to take into consideration all these elements while translating a scietific text. Scientists are not the original authors of these texts. They, in fact, translate the world (Ibid.).

Recently, some scholars have studied the scientific metaphor. Osler (1997:94) examines the metaphors historians have used to describe the relationship between science and religion in the modern age. As far as the analysis of metaphor is concerned, Bolinska et al. (2003:44) divide the message of metaphor into five elements (sending, coding, medium, decoding, receiving) adding that metaphorical expressions are so common in every day laguage that they are recognizable as a literal rather than figurative use of laguage. In this regard, Newmark (1988:84) goes further to say that all words are,in a certian prespective, metaphoric.

2.Functions of Metaphor :

As previously mentioned, the purpose of using metaphor differs according to the intention of the producer. Scientists use metaphor to clarify and describe an event or an object which is not used. When they are not satisfied with simple description of an event, they tend to use metaphorical expressions to clarify the unknown in terms of the known.In this regard,Pinchuch(1977:140) says that the reason of using metaphor in science is that the latter is a format of human knowledge depending on suggestions related to the world nature and the experience of humans. Therefore, the clarifications are formed of incomplete similarities between the known and the knower. An overall description of the events and objects under study is given as in the case of root metaphors.Holcombe (2007:1) gives a rather detailed functions of metaphor such as :

1. to group areas of experience (*life is a journey*),
2. to orientate ourselves (*my consciousness was raised*),
3. to convey expression through the senses (*his eyes were glued to the screen*),
4. to describe learning (*it had a germ of truth in it*), etc.
5.to picture ideas as:
a.objects (*the idea had been around for a while*),
b. containers (*I didn't get anything out of that*)
c. things to be transferred (*he got the idea across*).

3.Language of Science

In order to translate a scientific metaphor, a translator should first aknowledge the properties of the laguage of science. A scientific book is intended to give information. The presentation of such information should be characterized by clarity, objectivity and impersonality, and the aim to persuade the reader that what is presented is independent of the experimenter and any related subjuctivity. Therefore, the laguage of science largely depends on the passive voice to show impersonality. At the same time, stylstic devices like metaphor, irony, analogy and hyperbole are banned. Yet, when language is descriptive, it employs figures drawn from inert and mechanical physics. Grammatically, in the laguage of science, sentence structure is simple with heavy noun clusters (Pinchuch, 1977:136).

In scientific works, subject matter takes priority over the style of the linguistic medium which aims at expressing facts, experiments, hypotheses, etc. Verbal accuracy and lucidity of expression are needed in scientific langauge. Scientific words do not accumulate emotional associations and implications (Al-Hassnawi, 2007:1).

4.Types of metaphor.

Scholars have mentioned different types of metaphors. For example, Newmark (1988:85) suggests five types : dead, cliche, stock, recent and original metaphors. A commonly used metaphor that has become over time part of ordinary language is a dead metaphor as in saying "let off steam ' referring to "release anger".A one-word image that replaces an object is a metonym or a dead metaphor when the metaphor is repeated in various contexts to the degree that the emotive effect gradually disappears and a new term that describes reality more closely is created. A cliche lies between dead and stock metaphor. It consists of two parts, one of which is figurative and the other is not such as "swimming with the sharks" In the world of business, it represents the need to learn how to adapt, adjust, listen, observe, agree, support, trust, and think fast. (Berk,2006). A Stock metaphor has cultural aspects and hence poses more problems for translators. For example, the stock metaphor in the information age. "to connect with each other and be part of the Global Village"(Mautner,2005). Neologisms are said to be recent metaphors that need a period of time to turn into stock metaphors. Original metaphors are those of symbolic content whether ancient or modern such as *"My lawyer is a shark"*

(Kintsch and Bowles ,2002:5). In fact ,dictionaries confirm that most of the words which are recognised as straightforward and literal are dead (or "frozen") metaphor(Grey, 2000). A recent metaphor as in "Black Swans" which refers to the observation that since every swan seen in Europe was white, there was no way statistically to be prepared for the fact that there were black swans in Australia(Taleb,2007).

Other scholars have given other terminologies such as Pinchuck(1977:148) who takles root metaphor as: a type of scientific metaphors. saying that they are hypothetical suggestions about the nature of the world after possible ways of intepreting experience. Ordinary language is exposed to many changes and entails a variety of uses of different types. It can serve the usage of any sort of language.Ordinary language is considered the core of any other language. Those who use a new language adopt ordinary language to fit the goals they want to achieve via various linguistic devices as metaphor.Generally, each specialized language has similarities related to ordinary language. It probably possesses the same syntax and employes various vocabularies with their ordinary language besides creating new meanings.Other types include:

1.Extended or telescoping metaphor: A sustained metaphor, as in
The teacher descended upon the exams, sank his talons into their pages, ripped the answers to shreds, and then, perching in his chair, began to digest.
2.Implied metaphor: A less direct metaphor as in*:*
John swelled and ruffled his plumage (versus John was a peacock)
3.Mixed metaphor: The awkward, often silly use of more than one metaphor at a time, as in:
The movie struck a <u>spark</u> that <u>massaged</u> the audience's conscience
5.Scientific and Literary Metaphor.

Sarukkai(2001:651)says that the scientific discourse is not totally distinct from literary discourse. As a discourse, it has its own stylistics, aesthetics, rhetoric, metaphors and so on. But it also has something more—it is this extra space which needs to be delineated clearly. The nature of the scientific discourse, as a multiple semiotic system and in its use of multiple literary strategies, is already implicated within the notion of translation. Setting out some salient points related to translation, derived from the concerns of literature, will help broaden the understanding of the scientific

discourse, as manifested in its written form. This task is indeed urgent considering the widespread belief that scientific and technical texts do not exhibit the problems present in literary translation. Sarukkai(2001:651) adds that if the text is perceived as an object that should only produce a single invariant reading, any 'deviation' on the part of the reader/translator will be judged as transgression. Such a judgement might be made regarding scientific documents, for example, where facts are set out and presented in unqualifiedly objective terms for the reader of SL and TL texts alike, but with literary texts the position is different. Al-Hassnawi (2007:1) identifies certain differences that exist between scientific and literary texts. He gives the following comparison between scientific and literary langauges.

Scientific	Literary
Denotative adequacy –logical expository argumentative progression	Unbridled connotation –lack of argumentative progression
Precision	Vagueness
Intellect	Imagination or Intution
Reason	Emotion
Truth to particular truth	Truth to the ideal & universal

6.Metaphor Translation.

The difficulty of translating metaphor depends heavily on the type of metaphor . In this regard, Al-Hasnaawi (2007:3) argues that universal metaphors denoting similar ideas in different cultures are rather easily translated as in the metaphors related to the parts of human body " To give someone a hand " يمد يد العون". . He adds that metaphors are culture –specific because different cultures conceptualize the world in different ways.

As for the translation of scientific metaphors, Sarukkai(2001:1)says that the idea of translation can be found in the discourses on science, as in the history and philosophy of science, although it has not inspired the detailed discussion that it should have. Instead of a model of translation, it is the formation of languages at the boundary of different disciplines that is relevant. He concludes that it is the notion of trading that illustrates the way scientific communities interact and languages so formed at the boundaries are more in common with languages like Creole and pidgin. Pinchuck

(1977) remarks that these diverse texts in different languages have all been rewritten and expressed in one language, English, without mentioning the problems present in translating from one language into another.In this regard ,Sarukkai(2001:1) attempts to articulate some ideas on translation drawn from literature and philosophy and exhibits their relation to the scientific discourse. The case of interlingual translation in the context of scientific discourse is also interesting. Although, globally, the scientific discourse is increasingly written in the language of English, that was not always the case. Scientific discourse is something universal .

Since translation is rendering an original, the ideas of equivalence between the translated and original text arise naturally. There have been many scholars who attempt to find criteria for equivalence. As is well known, even word for word equivalence is problematic. The referential aspect of a word creates one possible criterion for equivalence, which is usually called denotative equivalence. Equivalence can also be on the order of connotation, formal, pragmatic and so on. It may also be desirable to go beyond the orbit of the text and search for the notion of equivalence in the agency of the reader and the different cultures involved in translation. Nida's (1964) idea of dynamic equivalence, for instance, argues for a notion of equivalence based on the 'equivalent' effect of the text on the reader.

Translation is fundamentally related to science. The purpose of scientific texts is to provide information useful to humanity in general. The translation of scientific texts represents a problem .In this regard, Al-Hassnawi (2007) highlights the problems of English –Arabic scientific translation.He tries to establish certain possible foactors that may lead to a theory of scientific translation. The translation of scientific texts must be direct,freer from alternatives and much less artistic than other kind of prose.The translator of scientific texts must have some knowledge of the subject –matter of the text he is working on(Al-Hassnawi,2007:1). Translation is at the heart of the scientific discourse. This is so for a variety of reasons. The multisemiotic nature of scientific texts makes this clear at the level of texts. The complexity involved in reading and writing these texts also involves moving from one language system to another. The presence of translation in these activities should be made visible and its consequences exhibited because it informs us about the possibilities of the formation of the scientific discourse itself. The philosophical foundations of

science are also related to the ideas of translation. Science attempts to write the text of the 'original' world. The notion of 'original' is central to both translation and science (Sarukkai, 2001:648).

Scholars have adopted different models in translating metaphor. The most important one is the cognitive approach to the study of metaphor. This approach can be seen in terms of the form of things that people have in mind , their models for perceiving and interpreting them. In order to translate metaphors , the translator must understand the way in which receptive readers perceive the world and structure their experience . Metaphors must be considered as cognitive constructs representing instances of how people conceptualize the experience (Al-Hasnawi,2007:2). In this paper , it is proposed that the translator should give an equivlance that has the same effect on the receptor in a way that gives the same information addressed to the SL receptor .

7.Text Analysis :

This paper adopts Newmark's(1882) classification of metaphor in analysing the types of metaphors and depends on Larson's(1984) model of analysing and translating metaphorical expressions . Seven texts taken form different scientific books have been rendered by seven translators and analysed to find out the most appropriate way of translating such metaphors

SL Text(1)	Details about the hardware, the **dead-time** modelling and the considerations made to undertake those simulations may be found in our previous work
Type of Metaphor	cliche
Topic	the dead-time modelling
Image	dead
Point of Similarity	Last
Nonfigurative meaning	final

TLtexts	No.
يمكن العثور على التفاصيل الخاصة بالاجزاء الصلبة والصياغة **الانية** والاعتبارات الموضوعة للقيام بانجاز تلك النماذج المماثلة في منتجاتنا السابقة.	.١
ربما يوجد في عملنا السابق تفاصيل عن الاجزاء، والنموذج **القديم** والاعتبارات التي اخذت في الحسبان لتبني تلك المحاكات.	.٢
يمكن الحصول على تفاصيل الادوات المعدنية والتشكيل **النهائي** والاعتبارات المتخذة للقيام بمحاكات النماذج في عملنا السابق.	.٣
التفاصيل حول القرص الصلب وحساب الوقت **المستهلك** والاعتبارات الاخرى للشروع بهذه الظواهر قد نجدها في عملنا السابق.	.٤
تجد في عملنا السابق تفاصيلا حول الاجزاء الصلبة والنموذج **النهائي** والاعتبارات التي اجريت لتبني هذه المحاكات.	.٥
قد تجد في عملنا السابق تفاصيل عن الاجزاء الاساسية الصلبة للحاسوب والاعتبارات المتخذة للقيام بعمليات المحاكات.	.٦
ان التفاصيل المتعلقة باجزاء الكمبيوتر الصلبة والنموذج **النهائي** والاعتبارات المتخذة لتبني هذه المحاكات قد تجدها في عملنا السابق.	.٧

Discussion:

In this case , the image of the metaphor cannot be reproduced in the TL . Therefore , the translators had no choice other than replacing the SL image with a TL image that does not clash with the target culture . It is noted that all translators have given the non-figurative meaning of the word "dead" .However, some rendering have been appropriate   as in "النهائي" which is given by translators (3,5, and 7) wheras, others have not been appropriate as in القديم ، المستهلك ،الانية" . The image does not have the same metaphorical meaning in the receptor language .

SL Text(2)	The former European tool for gamma-heating calculations was especially developed and validated for the design of the fast <u>breeder</u> power plant.
Type of Metaphor	original
Topic	The fast breeder power plant
Image	breeding

Point of Similarity	generating
...figurative meaning	...erator

No.	TLtexts
١.	لقد تم تطوير الجهاز الاوربي الخاص بقياسات التدفئة بأشعة كاما والتصديق علية في تصميم مصنع **انتاج** الطاقة السريع
٢.	طورت الاله الاوربية السابقة للحسابات الحرارية لاشعة كاما وتمت المصادقة رسميا عليها (واقرت) خصيصا من اجل تصميم محرك التوليد السريع للطاقة الكهربائية (او محطة **التوليد** السريع للطاقة الكهربائية).
٣.	لقد تم تطوير واختبار صلاحية الاداة الاوربية السابقة المستخدمة في حسابات التسخين بواسطة اشعة كاما وذلك بشكل خاص لتصميم مصنع قادر وعلى نحو سريع **بتوليد** الطاقة بنفسه.
٤.	لقد تم تطوير والمصادقة على الاله الاوربية السابقة والتي استخدمت في حسابات تسخين اشعة كاما وبشكل خاص لاجل تصميم مصانع سريعة في **توليد** الطاقة.
٥.	ان الجهاز الاوربي السابق لحسابات التسخين باشعة كاما تم تطويره وتاكيده لتصميم **المولدات** السريعة كعامل الطاقة.
٦.	طورت الالة الاوربية المتخصصة بحسابات التسخين باشعة كاما وتم التاكد من فعاليتها في تصميم اسرع نوع من انواع الطاقة
٧.	ان الاله الاوربية السابقة لحسابات التسخين بأشعة كاما قد تم تطويرها والتأكد منها لتصميم **المولدات** السريعة لمعامل الطاقة

Discussion:

An original metaphor can be detected in this case .The word "breeder" has been used metaphorically to give the meaning of generating. Five translators(2,3,4,5,and 7) have appropriately kept the same image of breeding yet lexically differently realized "التوليد، المولدات" , whereas translator no. (1) has given the non-metaphorical meaning انتاج and translator no. (6) has neglected the metaphor. The image in this text has the same metaphorical meaning the the TL , therefore , it is more appropriate to keep it.

SL Text(3)	The suggestion that certain motoric or cognitive processes are " **preprogrammed**
Type of Metaphor	original
Topic	cognitive processes
Image	preprogrammed
Point of Similarity	Certain steps are ordered

Nonfigurative meaning	Certain processes are ordered previously

TLtexts	No.
الافتراض بان عمليات ذهنية حركية معينة قد تم **برمجتها مسبقا**.	١.
النظرية القائلة بأن عمليات حركية او ادراكية معينة تكون **مبرمجة من قبل**.	٢.
تعد العمليات العقلية والحركية **عمليات مسبقة التنظيم**.	٣.
الاقتراح هو ان هناك قوة حركية او عمليات ذهنية معينة **مبرمجة مسبقا**.	٤.
يرجح ان بعض العمليات العصبية او الادراكية **مبرمجة مسبقا**.	٥.
الاقتراح القاضي بان عدة عمليات ذهنية او ادراكية **مبرمجة مسبقا** .	٦.
ان القترح بأن عمليات حركية او ادراكية معينة قد **تم اعادة برمجتها مرة اخرى**	٧.

Discussion:

In this example, The original metaphor consisits of two parts : the prefix"pre" and the root" programmed" .All translators have appropriately conceptualized the prefix and translated it into"مسبقا" by translators (1,3,4 and 5) whereas, less appropriate forms "من قبل ، مرة اخرى " have been used by translators (2 and 7) . As for the second part, most of the translators have kept the same image in the metaphorical expression when they used "مبرمجـة" except for translator no. (3) who has given the non-metaphoric meaning "التنظيم" . Since the root " برمجـة"has the same metaphorical meaning in the receptor language ,it can be used as an appropriate rendering in this case.

SL Text(4)	Disputes over the issue of the existence of an internal " brain language " in which "computations " are carried out
Type of Metaphor	**Original**
Topic	**brain language**
Image	**computations**
Point of Similarity	**Certain processes are done**
Nonfigurative	**There is a kind of communication inside the brain**

meaning	

TLtexts	No.
الجدل حول موضوع وجود **لغة داخل الدماغ** يتم بواسطتها اجراء المعالجات الحاسوبية.	١.
الخلافات حول مسألة وجود **لغة دماغ داخلية** تنفذ فيها عمليات حسابية.	٢.
الخلافات حول مسألة وجود **لغة العقل الداخلية** يتمن فيها تنفيذ العمليات الحسابية.	٣.
فالخلافات حول قضية وجود **لغة للدماغ داخلية** كان لها نصيب في الحسابات.	٤.
يسود الشك حول مسألة وجود **لغة داخلية للدماغ** حيث تجرى فيها الحسابات والعمليات	٥.
الجدل القائم حول قضية وجود **لغة ذهنية داخلية** تنجز فيها العمليات الحسابية	٦.
ان الجدال حول وجود **لغة دماغ داخلية** تجرى فيها عمليات تحليلية	٧.

Discussion:

In this text , a cliche metaphor can be specified in the expression "brain language " .It consists of two parts. The second part"language" is figurative whereas the first "brain" is not. The image in the second part has appropraitely been kept by all translators . Renditions having similar effect to the SL text but lexically realized differently .

"لغة داخل الدماغ،لغة دماغ داخلية،لغة العقل الداخلية ، لغة للدماغ داخلية ،لغة داخلية للدماغ، لغة ذهنية داخلية " . All these forms carry the same metaphorical meaning of the SL. The word "language" has the same metaphorical meaning in the receptor language .

SL Text(5)	the view that consciousness is a "**feedback** " phenomenon .
Type of Metaphor	Cliche
Topic	consciousness
Image	feedback " phenomenon
Point of Similarity	Returning information
Nonfigurative meaning	Exchanging information

No.	TLtexts
١.	الفكرة القائلة ان الوعي هو ظاهرة **"تغذية استرجاعية "**
٢.	وجهة النظر القائلة بأن الوعي هو ظاهرة **تغذية استرجاعية.**
٣.	الرأي بأن الوعي هو عبارة عن ظاهرة **التغذية الاسترجاعية.**
٤.	والراي هو ان الوعي انما هو نتاج لظاهرة **التغذية الاسترجاعية.**
٥.	وجهة النظر القائلة بان الشعور هو ظاهرة **تغذية عكسية**
٦.	الفكرة القائلة بان الشعور **ظاهرة استرجاعية**
٧.	ان وجهة النظر التي تقول بان الوعي هو ظاهرة **"التغذية الاسترجاعية "**

Discussion:

Five translators have kept the same metaphorical meaning of the cliche metaphor which consists of two parts :"feed " and "back"   . The translators have rendered the word " feedback" into two words "تغذية استرجاعية", whereas, translator no. (6) has used the rendition "ظاهرة استرجاعية"neglegting the image of "feeding" .Translator no. (5) has given a non-metaphorical expression when he used "عكسية". In this case the image of feeding has the same metaphorical meaning in the receptor langauge. Therefore, it should be kept .

SL Text(6)	Chernobyl may become nuclear **burial ground**
Type of Metaphor	Original

Topic	Chernobyl
Image	nuclear burial ground
Point of Similarity	Something is buried
Nonfigurative meaning	Killing area

TLtexts	No.
قد تصبح "جرنوبل **مقبرة** نووية	١.
قد تصبح شيرنوبل **مقبرة** نووية.	٢.
يمكن ان يتحول مفاعل شرنوبل الى **مقبرة** نووية.	٣.
قد يصبح مفاعل شرنوبل **مقبرة** نووية.	٤.
لربما تصبح شرنوبل **مقبرة** نووية	٥.
قد يصبح مفاعل شرنوبل **مقبرة** نووية	٦.
قد يصبح مفقاعل شرنوبل **مقبرة** نووية	٧.

Discussion:

In this case , the established TT expression is acceptably close to that of the established ST expression . A dead metaphor is noticed in the expression "burial ground ". All translators have rendered the metaphorical expression into the single word "مقبرة".They, in fact, appropriately, kept the metaphorical image because the item has the same metaphorical meaning in the receptor language. This metaphorical expression represents no problem for all the translators because it is a univeral concept with no cultural specific aspects .

SL Text(7)	**Crossover networks** have been with us for quite a while.
Type of Metaphor	Cliche
Topic	Crossover networks

Image	Networks
Point of Similarity	Extending vertically and horizontally
Nonfigurative meaning	Vertical and horizontal extensions

TLtexts	No.
لقد مضت علينا مدة ليست بالقصيرة في تصفح **شبكات المعلوماتية**.	١.
استخدمنا **الشبكات التحويلية** لحقبة من الزمن.	٢.
لقد مضى على استخدامنا **للشبكات المتداخلة** فترة ليست بالطويلة.	٣.
لقد مضى على **الشبكات العابرة** برهة من الزمن.	٤.
الشبكات المتداخلة موجودة منذ مدة	٥.
اننا نتعامل مع **الشبكات التحويلية** منذ امد بعيد	٦.
ان **الشبكات المتداخلة** معروفة لدينا منذ فترة	٧.

Discussion:

In this text, the expression " Crossover networks " can be classified as a "dead metaphor ". As for the first part of the expression"crossover" ,it has been translated diferently by the translators.Four different renderings have been given. Translators no. (3),(5), and(7) have appropriately rendered it into "المتداخلة". Translators no. 2 and 6 have used "التحويلية",whereas, translator no. (1) has rendered it into "المعلوماتية".Translator no. (4) has used another rendition"العابرة". Such a variation indicates that translating such an expression represents a problem because the image represented by the expression is new and not familier yet. A completely different situation is noticed in the translation of the second part of the metaphorical expression "networks", in that all translators have used the same rendition "الشبكة".They, in fact, appropriately, kept the metaphorical image because the item has the same metaphorical

meaning in the receptor language. The second part of the metaphorical expression represents no problem for all the translators because it is a univeral concept with no cultural aspects at all.In fact, the established TT expression is acceptably close to that of the established ST expression"networks" .

Conclusion:

The present paper shows that the translation of metaphor requires the translator to have knowledge about the domain of the metaphorical expression and in case of the scientific metaphorical expressions the image of the metaphor should be kept when it gives the same metaphorical meaning in the TL.It also shows that most of the scientific metaphorical expressions are used to deliver certain information by making use of a certain point of similarity whereas literary metaphor are mostly used for colouring language or as an ornament . Scientific metaphorical expressions are of universal characters with rather limited cultural elements .Therefore, the image in many cases have the same metaphorical meaning in both English and Arabic . As for the types of scientific metaphors , it is noted that most of them are "original , cliche and dead metaphors.

In general , most of the translators have been able to give an appropriate rendition especially in the case of dead and original metaphors where the image has the same metaphorical meaning in the receptor language . However , in some cases , the image of the metaphor cannot be reproduced in the TL . Therefore , the translators had no choice other than replacing the SL image with a TL image that does not clash with the target culture . The product in this case has been TL simile , paraphrase , explanatory remark , or a footnote.

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ترجمة التعابير المجازية العلمية الإنكليزية إلى العربية

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المستخلص

يتناول هذا البحث ترجمة التعابير المجازية العلمية الإنكليزية إلى العربية . ويقدم موجزا عن مفهوم المجاز بشكل عام والمجاز العلمي بشكل خاص . ثم يقدم الخصائص الأساسية لاستخدام المجاز العلمي والاختلافات الرئيسة بين المجاز العلمي والأدبي . كما يطرح البحث موجزا مختصرا عن ترجمة التعابير المجازية ويقترح ان هكذا تعابير تشكل معضلة لان الصورة المجازية لها معنى مجازي مختلف بين اللغتين . ولاختبار هذه الفرضية تم تحليل ترجمات بعض العينات من التعابير المجازية بهدف ايجاد الطريقة الامثل لترجمتها. واخيرا و بعد مناقشة نتائج التحليل ، تم عرض الاستنتاجات وتقديم بعض المقترحات لترجمة التعابير المجازية العلمية .