UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Ex parte FATHY YASSA

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Appeal 2018-006227
Application 13/284,971[1]
Technology Center 2600

_____

Before JOHN A. EVANS, LINZY T. McCARTNEY, and JASON M. REPKO, *Administrative Patent Judges*.

EVANS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[2] seeks our review under 35 U.S.C. § 134(a) of the Examiner's final rejection of claims 1–19. Appeal Br. 26. We have jurisdiction under 35 U.S.C. § 6(b).

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[1] An Oral Hearing was held February 12, 2020. A Transcript will be made available in due course.

[2] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Speech Morphing Systems, Inc. Appeal Br. 2.

Appeal 2018-006227
Application 13/284,971

We reverse.[3]

STATEMENT OF THE CASE

Related Appeals.

A separate Panel of the Board REVERSED the rejection of claims 1–
20 in Appeal 2018-006346 (Application 13/284,973) mailed May 29, 2019
("prior Decision"). The '973 application, and the present application, each
claim priority to Provisional 61/408,634, filed October 31, 2010. The '973
application issued November 5, 2019, as US 10,467,348.

Invention.

The claims relate to a networked communications system comprising
an automatic speech recognizer. *See* Spec., Abstract.

Claims.

Claims 1, 9, 17, and 18 are independent. An understanding of the
invention can be derived from a reading of representative claim 1[4] which is
reproduced below with some formatting added and a disputed limitation
highlighted:

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[3] Rather than reiterate the arguments of Appellant and the Examiner, we
refer to the Appeal Brief (filed February 7, 2018, "Appeal Br."), the Reply
Brief (filed May 29, 2018, "Reply. Br."), the Examiner's Answer (mailed
March 28, 2018, "Ans."), the Final Action (mailed June 7, 2017, "Final
Act."), and the Specification (filed October 30, 2011, "Spec.") for their
respective details.

[4] Appellant designates claim 1 as representative. *See* Appeal Br. 22–24.
Therefore, we decide this Appeal on the basis of representative claim 1, and
refer to the rejected claims collectively herein as "the claims." *See* 37
C.F.R. § 41.37(c)(1)(iv); *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

2

1.   A communication system comprising:

an automatic speech recognizer configured to receive a speech signal of a speaker in a first language and to convert said speech signal into a text sequence in the first language;

a speech analyzer configured to receive said speech signal, said speech analyzer configured to extract all paralinguistic characteristics of the speech signal in the first language from said speech signal;

a translator coupled with said automatic speech recognizer, said translator configured to convert said text sequence from the first language to a second language; and

a speech output device coupled with said automatic speech recognizer and said speech analyzer, said speech output device comprising a look-up table of paralinguistic characteristics mapping between the paralinguistic characteristics of the speech signal in the first language to paralinguistic characteristics of the speech signal in a second language, and said speech output device configured to transform all of the paralinguistic characteristics of the speech signal in the first language to the paralinguistic characteristics of the speech signal in the second language based on the mapping between the paralinguistic characteristics of the speech signal in the first language to the paralinguistic characteristics of the speech signal in the second language of the look-up table of paralinguistic characteristics and convert said translated text sequence in the second language into an output speech signal in the second language based on said paralinguistic characteristics of the speech signal in the second language,

wherein the transformation of all the paralinguistic characteristics of the speech signal in the first language to the paralinguistic characteristics of the speech signal in the second language comprises transforming at least one paralinguistic characteristic of the speech signal in the first

> *language imparting a connotation in the first language to a
> first word in the speech signal in the first language to at least
> one corresponding paralinguistic characteristic of the speech
> signal in the second language imparting the connotation in the
> second language to a second word of the speech signal in the
> second language, the second word in the second language
> being a translation of the first word in the first language,*

wherein said paralinguistic characteristics of the speech signal in the first language comprises at least one of a first pitch of the speech signal in the first language, a first amplitude of the speech signal in the first language, and a first rate of speech of the speech signal in the first language, and

wherein said paralinguistic characteristics of the speech signal in the second language comprises at least one of a second pitch of the speech signal in the second language, a second amplitude of the speech signal in the second language, and a second rate of speech of the speech signal in the second language.

REFERENCES AND REJECTIONS

References.[5]

Name	Publication Number	Date
Duan	US 6,223,150 B1	Apr. 24, 2001
Endo	US 7,228,275 B1	June 5, 2007
Kumaran	US 7,877,251 B2	Jan. 25, 2011 (Filed May 7, 2007)
Subramanian	US 2007/0208569 A1	Sept. 6, 2007
Xu	US 2009/0055158 A1	Feb. 26, 2009

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[5] The identical reference set was applied against the '973 Application.

Appeal 2018-006227
Application 13/284,971

Rejections.[6]

The claims stand rejected as follows:

1. Claims 1–3, 8–11, and 16–19[7] stand rejected under 35 U.S.C.
   § 103(a) as being unpatentable over Duan, Xu, and Subramanian.
   Final Act. 9–16.

2. Claims 4–6 and 12–14 stand rejected under 35 U.S.C. § 103(a) as
   being unpatentable over Duan, Xu, Subramanian, and Endo. Final
   Act. 16–17.

3. Claims 7 and 15 stand rejected under 35 U.S.C. § 103(a) as being
   unpatentable over Duan, Xu, Subramanian, Endo, and Kumaran.
   Final Act. 18.

ANALYSIS

We have reviewed the rejections of claims 1–19 in light of
Appellant's arguments that the Examiner erred. We are persuaded that
Appellant identifies reversible error. We consider Appellant's arguments
seriatim, as they are presented in the Appeal Brief, pages 13–24; and in the
Reply Brief, pages 4–9.

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[6] The Application is being examined under the pre-AIA first to invent
provisions. Final Act. 2.
[7] The Rejection recites, *inter alia*, "and 16–20." Because there is no claim
20 pending, we take the Examiner to mean "16–19" and find the recitation
"20" to be harmless error.

5

CLAIMS 1–19: OBVIOUSNESS OVER

DUAN, XU, SUBRAMANIAN, ENDO, AND KUMARAN.

Connotation.

Claim 1 recites, *inter alia*:

wherein the transformation of all the paralinguistic
characteristics of the speech signal in the first language to the
paralinguistic characteristics of the speech signal in the second
language comprises transforming at least one paralinguistic
characteristic of the speech signal in the first language
imparting a connotation in the first language to a first word in
the speech signal in the first language to at least one
corresponding paralinguistic characteristic of the speech signal
in the second language imparting the connotation in the second
language to a second word of the speech signal in the second
language, the second word in the second language being a
translation of the first word in the first language.

The Examiner finds the Duan-Xu combination fails to teach where the

paralinguistic correlation imparts connotation information. Final Act. 13.

The Examiner finds Subramanian teaches "emotional adjustment" during

language translation with emotion-to-emotion transformation and inserting

emotion in new portions of audio output where it is expected in cultural

differences. *Id.* at 13–14 (citing Subramanian ¶¶ 13, 14).

Appellant contends neither Duan, Xu, nor Subramanian teach that

speech at a first pitch in a first language might have connotation different

from speech at a second pitch in a second language, and thus the references

do not contemplate the transformation therebetween. Appeal Br. 14.

The Examiner finds the "[g]eneral transformation of 1st to 2nd

paralinguistic information was merely described in the claims (read upon by

Xu) until the specificity of 'connotation' (read upon by Subramanian)."
Ans. 19. The Examiner finds "Xu teaches the transformation and mapping
of first to second paralinguistic(s)[, but] does not necessarily teach imparting
connotation per se across languages." *Id.* The Examiner further finds "in
lieu of official notice and specific to 'connotation' per se, Subramanian was
introduced and while translating across language, uses not only general
translation and transformation with markup but specific emotional context."
Id. (quoting Subramanian, Abstract) ("Emotion across voice and text
communication channels are abstracted, preserved and translated."). The
Examiner specifically finds: "Subramanian expressly teaches the
transformation of a first speech with emotional context in a first language to
a second language with emotional context." Ans. 20.

Appellant contends the claims recite "transforming at least one
paralinguistic characteristic of the speech signal in the first language
imparting a connotation . . . to at least one corresponding paralinguistic
characteristic of the speech signal in the second language imparting the
connotation." Reply Br. 6. Appellant argues that Subramanian merely
recognizes emotions for the purpose of adjusting "tone, camber, and
frequency." *Id.* (citing Subramanian ¶ 75).

Appellant does not indicate a definition for the term "connotation" in
the Specification, nor does Appellant argue that "connotation" should be
construed to be a term of art in an industry relevant to the claims. Nor does
the Examiner define the term "connotation" or indicate that it is a

specialized term of art. We, therefore, find a person of ordinary skill in the art would consult a generalist dictionary to define the term "connotation."

Connotation is defined as "the suggesting of a meaning of a word apart from the thing it explicitly names or describes." Merriam-Webster's Collegiate Dictionary, 11th ed. (2005).[8] Thus, we find the "connotation" of a term implies a secondary meaning beyond its explicit denotation.

Subramanian discloses: "The translated emotion metadata is used to emotion mine words that have an emotion connotation in the culture of the second language. Those words are then substituted for corresponding words in the translated text." Subramanian, Abstract (cited by the Examiner). Thus, Subramanian teaches finding a word conveying an equivalent emotion, but does not teach "suggesting of a meaning of a word apart from the thing it explicitly names or describes."

Independent claims 9, 18, and 19 contain commensurate recitations. Appellant contends claims 4–7 and 12–17 are patentable by virtue of their dependence on claims 1 and 9. Appeal Br. 23–24. The Examiner's Answer does not make separate findings for the dependent claims. *See* Ans. 29–30. In view of the foregoing, we decline to sustain the rejection of claims 1–19.

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[8] The Oxford English Dictionary. (a) The signifying in addition; inclusion of something in the meaning of a word besides what it primarily denotes; implication. Oxford English Dictionary. (b) That which is implied in a word in addition to its essential or primary meaning. http://www.oed.com/view/Entry/39386?redirectedFrom=connotation#eid.

CONCLUSION[9]

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–3, 8–11, 16–19	103	Duan, Xu, Subramanian		1–3, 8–11, 16–19
4–6, 12–14	103	Duan, Xu, Subramanian, Endo		4–6, 12–14
7, 15	103	Duan, Xu, Subramanian, Endo, Kumaran		7, 15
Overall Outcome				1–19

REVERSED

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[9] Because we do not sustain the Examiner's rejection for the reasons discussed herein, we need not address Appellant's further arguments. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (finding an administrative agency is at liberty to reach a decision based on "a single dispositive issue").